SPACE COMMERCIALIZATION PROMOTION ACT OF 1996

Y 4.SCI 2:104/61

Space Commercialization Promotion A...

BEFORE THE

SUBCOMMITTEE ON SPACE AND AERONAUTICS

OF THE

COMMITTEE ON SCIENCE

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

JULY 31, 1996

[No. 61]

Printed for the use of the Committee on Science

DEC 13 1996

U.S. GOVERNMENT PRINTING OFFICE

35-039CC WASHINGTON : 1996

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-053636-7

SPACE COMMERCIALIZATION PROMOTION ACT OF 1996

Y 4.SCI 2:104/61

Space Commercialization Promotion A...

BEFORE THE

SUBCOMMITTEE ON SPACE AND AERONAUTICS

OF THE

COMMITTEE ON SCIENCE

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

JULY 31, 1996

[No. 61]

Printed for the use of the Committee on Science

DEC 13 1996

U.S. GOVERNMENT PRINTING OFFICE

35-039CC WASHINGTON : 1996

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-053636-7

COMMITTEE ON SCIENCE

ROBERT S. WALKER, Pennsylvania, *Chairman*

F. JAMES SENSENBRENNER, JR., Wisconsin
SHERWOOD L. BOEHLERT, New York
HARRIS W. FAWELL, Illinois
CONSTANCE A. MORELLA, Maryland
CURT WELDON, Pennsylvania
DANA ROHRABACHER, California
STEVEN H. SCHIFF, New Mexico
JOE BARTON, Texas
KEN CALVERT, California
BILL BAKER, California
ROSCOE G. BARTLETT, Maryland
VERNON J. EHLERS, Michigan**
ZACH WAMP, Tennessee
DAVE WELDON, Florida
LINDSEY O. GRAHAM, South Carolina
MATT SALMON, Arizona
THOMAS M. DAVIS, Virginia
STEVE STOCKMAN, Texas
GIL GUTKNECHT, Minnesota
ANDREA H. SEASTRAND, California
TODD TIAHRT, Kansas
STEVE LARGENT, Oklahoma
VAN HILLEARY, Tennessee
BARBARA CUBIN, Wyoming
MARK ADAM FOLEY, Florida
SUE MYRICK, North Carolina

GEORGE E. BROWN, JR., California RMM*
HAROLD L. VOLKMER, Missouri
RALPH M. HALL, Texas
BART GORDON, Tennessee
JAMES A. TRAFICANT, JR., Ohio
JOHN S. TANNER, Tennessee
TIM ROEMER, Indiana
ROBERT E. (Bud) CRAMER, JR., Alabama
JAMES A. BARCIA, Michigan
PAUL McHALE, Pennsylvania
JANE HARMAN, California
EDDIE BERNICE JOHNSON, Texas
DAVID MINGE, Minnesota
JOHN W. OLVER, Massachusetts
ALCEE L. HASTINGS, Florida
LYNN N. RIVERS, Michigan
KAREN McCARTHY, Missouri
MIKE WARD, Kentucky
ZOE LOFGREN, California
LLOYD DOGGETT, Texas
MICHAEL F. DOYLE, Pennsylvania
SHEILA JACKSON LEE, Texas
WILLIAM P. LUTHER, Minnesota

DAVID D. CLEMENT, *Chief of Staff and Chief Counsel*
BARRY BERINGER, *General Counsel*
TISH SCHWARTZ, *Chief Clerk and Administrator*
ROBERT E. PALMER, *Democratic Staff Director*

SUBCOMMITTEE ON SPACE AND AERONAUTICS

F. JAMES SENSENBRENNER, JR., Wisconsin, *Chairman*

KEN CALVERT, California
DAVE WELDON, Florida
STEVE STOCKMAN, Texas
ANDREA H. SEASTRAND, California
TODD TIAHRT, Kansas
VAN HILLEARY, Tennessee
DANA ROHRABACHER, California
MATT SALMON, Arizona
THOMAS M. DAVIS, Virginia
STEVE LARGENT, Oklahoma
MARK ADAM FOLEY, Florida
(Vacancy)

RALPH M. HALL, Texas
JAMES A. TRAFICANT, JR., Ohio
TIM ROEMER, Indiana
ROBERT E. (BUD) CRAMER, JR., Alabama
JAMES A. BARCIA, Michigan
JANE HARMAN, California
SHEILA JACKSON LEE, Texas
ALCEE L. HASTINGS, Florida
MIKE WARD, Kentucky
WILLIAM P. LUTHER, Minnesota

---

*Ranking Minority Member
**Vice Chairman

CONTENTS

WITNESSES

Page

July 31, 1996:

Lionel S. Johns, Associate Director for Technology, Office of Science and Technology Policy 4

Spence M. Armstrong, Associate Director for Human Resources and Education, National Aeronautics and Space Administration 25

Gil I. Klinger, Principal Assistant Under Secretary of Defense for Space, Department of Defense, accompanied by: Edward A. Frankle, General Counsel, National Aeronautics and Space Administration 32

Brian Dailey, Vice President, Business Development for Space and Strategic Missiles Sector, Lockheed Martin Corporation 54

Dr. Scott Pace, Policy Analyst, Rand Corporation 62

Mark Brender, National Radio and Television News Directors' Association, and ABC News Producer 72

APPENDIX

Written Testimony Submitted for the Record by:

United States GPS Industry Council 81

United Space Alliance 82

North American Remote Sensing Industries Association 83

Radio-Television News Directors Association 85

Answers to Questions Submitted for the Record by:

The Honorable Lionel S. Johns—Office of Science and Technology Policy 105

Lt. Gen. Spence Armstrong—NASA 109

Mr. Gil Klinger—Department of Defense 112

Dr. Brian Dailey—Lockheed Martin 114

Dr. Scott Pace—Rand Corporation 116

Mr. Mark Brender—National Radio and Television News Directors' Association 119

SPACE COMMERCIALIZATION PROMOTION ACT OF 1996

WEDNESDAY, JULY 31, 1996

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
SUBCOMMITTEE ON SPACE AND AERONAUTICS,
Washington, DC.

The subcommittee met at 1:21 p.m. in Room 2318 of the Rayburn House Office Building, the Honorable F. James Sensenbrenner, chairman of the subcommittee, presiding.

Mr. SENSENBRENNER. The subcommittee will be in order.

Without objection, the Chair is granted permission to recess the subcommittee during votes this afternoon. We understand that there are going to be plenty of them, so I will apologize in advance to the witnesses who will be appearing, because I'm afraid that there are going to be numerous pregnant pauses. Without objection, so ordered.

The American aerospace industry has led the world for decades. But its position has been increasingly challenged in recent years.

First, defense cuts, which began in 1986, have reduced the business base for high-tech companies, and cut the amount of investment that this country makes in new space technologies.

Second, foreign governments have heavily subsidized their aerospace industries, and practiced a brand of mercantilism that minimizes the technical advances American companies have in the global marketplace.

As a result of these two trends, American companies have watched their profits shrink. And we've all watched the impact that defense cuts have had on our aerospace workers.

But there has been a silver lining in all of these dark clouds; and that has been commercial space development.

Commercial space activity generated $6.3 billion worth of revenue in 1994, and $7.5 billion in 1995, which makes it larger than the motion picture industry. In the last decade, this area of economic activity has experienced unprecedented growth. It has proven recession-proof, granted tax revenues, created new jobs, and leveraged space technology to improve everyday life.

Continued growth of the commercial space industry will increase investments in new space technologies that capabilities of government can use to augment its space missions.

Since we face cuts in our civil and military space programs, these private investments and capabilities play an important role in advancing our national space agenda goals. That's one reason that

presidents and members of Congress from both parties have promoted commercial space development.

In the past, technology and capital were the main obstacles to commercial space development. Recent years have lowered the cost of technology, and largely solved these problems. Excessive and inefficient government regulations and policies have become the chief obstacle to new space enterprises.

Fortunately, Congress and the White House have worked on a bipartisan basis to eliminate these obstacles with some success.

Today we are considering the possibilities of the draft Space Commercialization Promotion Act of 1996 to see how we can build on that success. The draft bill has been circulated among committee members, begins with recent White House policy on space transportation, remote sensing, and the global positioning system.

It solidifies and expands those policies based in part on the experience we've had with them over the past few years.

Our witnesses this afternoon will hopefully provide us with their insights on the bill, its strengths and weaknesses, and their suggestion for changing it so we can make it a bipartisan success.

Is there a Democratic opening statement? The gentleman from Minnesota.

Mr. LUTHER. Thank you, Mr. Chairman. I just want to thank you on behalf of the Minority for this hearing. I think it's a very worthwhile exercise. As you stated very well, I think this has been a bipartisan undertaking in the past.

I certainly look forward to the witnesses' testimony. I'm sorry that it is on a day when we have this kind of a schedule, and many of us will have to run back and forth between other meetings, and the session.

But I want to thank you for scheduling the hearing, Mr. Chairman, look forward to the testimony. I would ask that Mr. Hall's opening comments, which I know he has prepared, and that the other members' opening comments, be made part of the record.

Mr. SENSENBRENNER. Without objection. And without objection all members will be able to insert opening statements at this part of the record.

[The opening statements of Mr. Weldon, Mr. Brown, and Mr. Hall follow:]

STATEMENT BY CONGRESSMAN DAVE WELDON (R-FL) ON THE SPACE COMMERCIALIZATION ACT OF 1996

I first want to thank Chairman Walker for his leadership in bringing this bill forward. It is important that we begin to seriously address the policy needs of the commercial space sector, and I will work hard with him to get this enacted as soon as possible.

This is an important measure. I have been voicing my strong support for the commercial space sector since I came to Congress, and a strong commercial space sector is vital if the United States is to maintain its world-wide leadership in space. The nature of the space business is changing rapidly, and it is time for the federal government to recognize and adapt to these changes.

This bill addresses a number of critical space business areas, including common sense policies on remote sensing, promotion of the U.S.-developed Global Positioning System as the international standard, the strengthening of the commercial space science sector, and it includes important changes to U.S. law governing commercial space launches and operations.

Of particular concern to me, however, are the provisions governing NASA civil service personnel and their ability to take jobs with NASA contractors. Current U.S. law would prohibit federal civil servants from leaving their jobs and immediately

taking positions with contractors whom they had significant dealings, such as procurement or technical oversight. This is a good policy. It prevents conflicts of interest among former civil servants and ensures fair treatment of government contractors.

However, NASA is facing a unique situation. With the rapid transition to a single prime contractor to operate the Space Shuttle fleet, NASA will be quickly downsizing its civil service workforce as the new presumed contractor, United Space Alliance (USA), begins to increase staffing. As this occurs, it will be vital for critical skills to be retained in the Shuttle program to ensure safe and efficient operations, and one logical source for these skills is the NASA civil service workforce. In order to provide USA with maximum flexibility in hiring the right skill mix to successfully and safely operate the Shuttle, they need the ability to hire any civil servant with the right training and/or experience. This may mean hiring civil servants who would normally be prohibited from working from the contractor, but the provisions in this bill would waive that restriction.

As I understand it, NASA does have some limited ability to waive these restrictions, as can the President, but it is important for Congress to reassure NASA that its authority will not be challenged. I fully support the provisions in the bill that provide NASA with this flexibility, and ask the White House to publicly support NASA and USA as they make their staffing decisions.

Thank you, Mr. Chairman.

OPENING STATEMENT

BY

HON. GEORGE E. BROWN, JR.

JULY 31, 1996

Good afternoon. Mr. Chairman, I am pleased that we are holding this hearing on space commercialization, and I look forward to hearing the testimony of our witnesses.

The Nation's space activities have long been carried out in three different domains: civil, military, and commercial. The relative importance and magnitude of each have varied over the nearly four decades since the dawn of the space age, and the outlook for each continues to evolve. I believe that there are opportunities to leverage the capabilities of each space sector and thereby reduce needless duplication across them. A healthy commercial space sector thus helps ensure the health of the Nation's overall space program.

The development of a robust, vital commercial space sector is a goal that has been shared by Members of this Committee on a bipartisan basis as long as I have been in Congress. Legislation passed over the last 15 years has done much to help the growth of the commercial launch services industry and the nascent commercial remote sensing industry.

The draft space commercialization bill that will be discussed at today's hearing may provide additional needed assistance. The testimony of today's witnesses will be helpful to me as I evaluate the various legislative proposals contained in it, and I look forward to working with the Chairman to make constructive progress in that regard.

I will be particularly interested in hearing from the witnesses about the proposed changes to the Land Remote Sensing Policy Act of 1992 contained in the draft bill. As some of you will recall, considerable effort was required in crafting the 1992 Act to achieve a delicate balance between the legitimate interests of the Federal government, the commercial service providers, and the ultimate end users of the remote sensing data. Nevertheless, four years have passed since that Act was enacted, and some modifications may be necessary or beneficial. I would, however, counsel that we not do anything without thoroughly examining the potential consequences.

There are a number of other provisions in the draft bill that I believe warrant scrutiny, and I hope that today's hearing will begin the process of review. Nevertheless, I want to commend Chairman Walker on his initiative in drafting this legislation.

Thank you.

OPENING STATEMENT

BY

HON. RALPH M. HALL

JULY 31, 1996

Good afternoon. I would like to welcome the witnesses to today's hearing. We look forward to your testimony. I also want to thank the Chairman for holding this hearing.

This Committee has long had a bipartisan interest in doing what we could to promote the growth of a thriving commercial space sector. This interest has been more than justified by what has been accomplished to date. We need only look at the booming activity in satellite communications and the plans for ever more advanced communications satellite networks to realize that commercial space activity is an important part of our economy *now*—not just at some point in the indefinite future.

In the 1980s and 1990s, this Committee passed important legislation to promote the development of commercial launch services and commercial remote sensing. I welcome today's hearing as a chance to take stock of where we are and to examine whether additional legislation might be needed.

While commercial space activity cannot substitute for the Federal government's necessary role in ensuring that America maintains a world-class space program, it will help to deliver important benefits to our economy and to our taxpayers. Mr. Chairman, I look forward to working with you in the remaining days of this Session and—the voters willing—in the next Congress to continue our bipartisan efforts to advance space commercialization.

Thank you.

Also without objection, we will hold the record open for seven business days in order for individuals and organizations that are not appearing today to submit written testimony for inclusion in the record, following the testimony of the witnesses that are appearing.

Today we have two panels. The first panel includes the Honorable Lionel Johns, Associate Director of Technology of the Office of Science and Technology Policy: Lt. Gen. Spence Armstrong, Retired, Associate Director for Human Resources and Education of NASA; and Mr. Gil Klinger, the Principal Assistant Secretary of Defense for Space of the Department of Defense.

Each of your full written statements will be included in the record without objection. We'd like to ask you to limit your testimony to five minutes so that there will be plenty of time, we hope, for questions and answers.

So, Mr. Johns, why don't you go first.

STATEMENT OF HONORABLE LIONEL S. JOHNS, ASSOCIATE DIRECTOR FOR TECHNOLOGY, OFFICE OF SCIENCE AND TECHNOLOGY POLICY

Mr. JOHNS. Mr. Chairman, it's a pleasure to be here today to discuss the developments of space. I'd like to submit my testimony for the record, along with a facts sheet for the Presidential Decision Directives on Space and Transportation——

Mr. SENSENBRENNER. Without objection.

Mr. JOHNS. (continuing) —and the Global Positioning System.

I've excerpted about five minutes of my testimony in response to your letter.

Over the past three decades, we've seen space technology become a powerful force in our domestic economy and in the global marketplace. Over the past three years, the Administration has been a strong supporter of both the government and private sector invest-

ments in space. We believe that a strong, stable U.S. commercial space industry is vital to the nation's future.

The President's decision to redesign the space station and recommit the nation to a world-class orbiting laboratory was in part driven by the important role this facility will have in advancing future U.S. commercial competitiveness.

Our discoveries in materials processing, life sciences, microgravity sciences aboard the space station will have profound and positive impacts on America's industries in the future.

The Administration's space transportation policy also recognizes the central role the commercial sector must play in meeting the nation's requirements for access to space. In anticipation of this role, the policy specifically chartered NASA to involve the private sector in planning and evaluating its launch technology activities.

We are now seeing the policy and all of the bipartisan support for the next generation reusable launch vehicle technology come to fruition with the RLV program, a program that envisions a unique industry role in launch vehicle management and operations.

We've also taken steps to encourage commercialization in the space shuttle program. As you know, Mr. Chairman, we've encouraged NASA to consolidate shuttle contracts, and pursue negotiations with a single prime contractor to begin the process of commercial operations.

With regard to the discussion draft that you are considering today, I'd like to make some general observations on areas where I think our interests intersect.

We and other concerned agencies are in the process of analyzing the specific legislative language which we recently received. One area is how we go about encouraging the commercial potential of the international space station, and what role free market approaches should have.

While the private sector and free market approaches can add benefit to the program, we also much ensure that the specific steps we take are balanced with the realities of the marketplace and of our international commitments.

Another area of mutual interest is commercial spaceports. Mr. Chairman, I think you'll agree we are seeing a transformation in the space transportation area with the emergence of spaceports.

Florida, California, Virginia, New Mexico, and Alaska are all engaged in space launch activities that fall under the general term spaceport. Yet these activities are in very different institutional structures. Some spaceports are state entities, some are private not-for-profits. Some are joint partnerships between state and industry.

As a first step, we must modify our regulatory framework to accommodate the emergence of spaceports as a resource in space transportation. We share the subcommittee's desire to encourage commercial spaceports, and indeed the Administration's space transportation policy specifically encourages private sector, state, and local investments in U.S. launch systems and infrastructure.

We believe there should be a minimum set of federal standards to ensure a level playing field, and guarantee that public safety, environment, national security, and liability concerns are met.

The FAA has taken steps to reorganize its Commercial Space Transportation Office to be more responsive to addressing licensing issues. They are also in the process of developing a draft regulation for review and comment for licensing launch activities involving spaceports.

We expect to receive the draft regulatory guidelines from the DOD and FAA working group later this summer.

I also note that the discussion draft includes some provisions concerning the global positioning system (GPS). As you are aware, Mr. Chairman, the President issued a national policy directive on the future management use of GPS last March.

In brief, the policy reaffirms our commitment to provide basic GPS services free of direct user fees for peaceful, civil, and commercial users throughout the world. The policy establishes a permanent interagency executive board to coordinate the management and use of GPS and related U.S. government augmentations.

Finally, it calls for consultation with foreign governments and other international organizations on the feasibility of developing bilateral or multilateral guidelines on the provision and use of GPS services.

On this point, I note, Mr. Chairman, the Department of State has already begun the process of initiating consultations with Japan, Europe, and Russia.

Space transportation is another area that is addressed in the discussion draft. The President's '94 space transportation policy which I referenced earlier paved the way for NASA's RLV program and DOD's program to evolve and modernize the current ELV fleet.

The policy also includes guidance on the use of the shuttle and the use of excess ballistic missiles, and on the procurement of commercial launch services.

Finally, the discussion draft touches on several areas related to land remote sensing and Mission to Planet Earth. We place a high priority on maintaining the continuity of Landsat data and on supporting the commercial remote sensing industry.

The development of Landsat 7 is proceeding in accordance with the Administration's presidential decision directive, which restructured the Landsat program with NASA, NOAA, and the USGS responsible for different aspects of the program.

On the commercial side, we have issued policy guidance to streamline the licensing process while maintaining necessary foreign policy and national security safeguards. At least seven companies have received licenses for a variety of systems.

I think there's some common ground between our initiatives to promote the purchase of data sets from private sector, and some of the ideas in the draft. I would note that the '97 Administration request for NASA's Mission to Planet Earth includes $50 million in funding specifically for NASA to purchase earth science data sets from private industry.

In addition, NASA is committed to developing a competitive partnership model for working with industry to acquire data services, and in fact has just hosted a major government/industry workshop devoted to discussing a draft commercial strategy.

In summary, there appears to be a number of areas, including space commercialization, commercial spaceports, global positioning

system policy, and remote sensing where concepts in the discussion draft can form a basis for common ground.

As the subcommittee considers the draft legislation, we would like an opportunity to provide specific comments.

That concludes my remarks. Thank you.

[The prepared statement and attachment of Mr. Johns follow:]

Statement of

The Honorable Lionel S. Johns

Associate Director for Technology

Office of Science and Technology Policy

Executive Office of the President

before the

Subcommittee on Space and Aeronautics

Committee on Science

U.S. House of Representatives

July 31, 1996

Over the past three decades, we have seen space technology become a powerful force in our domestic economy and in the global marketplace. Satellite communications, remote sensing, space launch services, and global position system applications all provide examples of how our national investments in space are paying handsome returns. Over the past three years, the Administration has been a strong supporter of both government and private sector investments in space. We believe that a strong and stable U.S. commercial space industry is vital to the nation's future in space.

The President's decision to redesign the space station and recommit the nation to a world-class orbiting laboratory was, in part, driven by the important role this facility will have in advancing future U.S. commercial competitiveness. Our discoveries in materials processing, life sciences and microgravity sciences aboard the space station will have profound and positive impacts on America's industries of the future.

The Administration's space transportation policy also recognized the central role that the commercial sector must play in meeting the nation's requirement for access to space. For the first time, national space transportation policy recognized that the private sector could have a significant role in managing the development and operation of a new reusable space transportation system. In anticipation of this role, the policy specifically chartered NASA to involve the private sector in planning and evaluating its launch technology activities. We are now seeing the policy--and all of the bipartisan support for next-generation reusable launch

vehicle technology -- come to fruition with the RLV program; a program that envisions a unique industry role in launch vehicle management and operation.

We have also taken steps to encourage commercialization in the Space Shuttle program. As you know, Mr. Chairman, we have encouraged NASA to consolidate Shuttle contracts and pursue negotiations with a single prime contractor to begin the process of commercializing operations. We believe that this approach will allow us to benefit from cost efficiencies in the private sector while maintaining our number one goal of safety in the program.

With regard to the discussion draft you are considering today, I would like to make some general observations on areas where I think our interests intersect. We and other concerned agencies are in the process of analyzing the specific legislative language which we recently received.

One area is how we go about encouraging the commercial potential of International Space Station and what role free-market approaches should have. NASA has taken some initial steps to meet this objective. Earlier this year, NASA adopted a program establishing some of the ISS on-board resources as a commercial engineering center (ISSEC), and has held a workshop and issued a Cooperative Agreement Notice to solicit bids. While the private sector and free-market approaches can add benefit to the program, we also must ensure that the specific steps we take are balanced with the realities of the marketplace and our international commitments.

Another area of mutual interest is commercial spaceports. Mr. Chairman, I think you will agree that we are seeing a transformation in the space transportation area with the emergence of spaceports. Florida, California, Virginia, New Mexico, and Alaska are all engaged in space launch activities that fall under the general term "spaceport." And yet, these activities are in very different institutional structures. Some spaceports are state entities, some are private non-profit entities, some are joint partnerships between the state and industry.

As a first step we must modify our regulatory framework to accommodate the emergence of spaceports as a resource in space transportation. We share the Subcommittee's desire to encourage commercial spaceports, and, indeed, the Administration's space transportation policy specifically encourages private sector and state and local investments in U.S. launch systems and infrastructure. We believe that there should be a minimum set of federal standards to ensure a level playing field and guarantee that public safety, environment, national security and liability concerns are met. The Department of Defense and the FAA are leading an interagency process to develop guidelines to clearly define the relationship between Federal facilities and spaceport activities.

The FAA has also taken steps to reorganize its commercial space transportation office to be more responsive in addressing licensing issues. They are also in the process of developing draft regulations for review and comment for licensing launch activities involving spaceports. In the interim, the FAA has assured those spaceports that have requested regulatory guidance that the FAA will accomodate their launch schedules and, as necessary, issue any appropriate

licenses. As the discussion draft evolves, we would welcome an opportunity to discuss with the Subcommittee how the Federal guidelines under development could be reflected in legislation. We expect to receive the draft regulatory guidelines from the DoD and FAA working group later this summer.

I also note that the discussion draft includes some provisions concerning the Global Positioning System. As you are aware, Mr. Chairman, the President issued a national policy directive on the future management and use of GPS last March. In brief, the policy reaffirms our commitment to provide to provide basic GPS services, free of direct user fees, for peaceful civil and commercial users throughout the world. It also states our intention to terminate, within the next decade, the Selective Availability (SA) feature that is currently used to degrade the accuracy of GPS signals provided to civil and commercial users. The policy establishes a permanent interagency GPS Executive Board to coordinate the management and use of GPS and related U.S. Government augmentations. And, finally, it calls for consultations with foreign governments and other international organizations on the feasibility of developing bilateral or multilateral guidelines on the provision and use of GPS services. On this point, I would note, Mr. Chairman, that the Department of State has already begun the process of initiating consultations with Japan, Europe, and Russia.

Space transportation is another area that is addressed in the discussion draft. This is an area where the Administration has been active across several fronts. The President's 1994 space transportation policy, which I referenced earlier, paved the way for NASA's RLV

program and the DoD's program to evolve and modernize the current ELV fleet. The policy also included guidance on use of the Shuttle, the use of U.S. excess ballistic missiles, and on the procurement of commercial launch services. Some of the proposals in the discussion draft -- such as extending the requirement to "buy commercial" beyond NASA -- are in review by the affected agencies. While I can not take a position in today's hearing, I can say that we share the Subcommittee's desire to reduce the cost of access to space and we are happy to work with the committee to encourage it.

Finally, the discussion draft touches on several areas related to land remote sensing and the Mission to Planet Earth (MTPE) program.

We place a high priority on maintaining the continuity of Landsat data and on supporting the commercial remote sensing industry. The development of Landsat 7 is proceeding in accordance with the Administration's Presidential Decision Directive which restructured the Landsat program, with NASA, NOAA, and USGS responsible for different aspects of the program. It is my understanding that Landsat 7 development is on schedule, proceeding towards a 1998 launch. In addition, a number of technology development activities are underway that should help improve the next generation Landsat instrumentation, enabling us to reduce the future costs of maintaining the continuity of this vital data record.

On the commercial side, we have issued policy guidance to streamline licensing procedures while maintaining necessary foreign policy and national security safeguards. At least seven

companies have received licenses for a variety of systems. We feel that the combination of these two policies is having several positive effects. The ongoing supply of Landsat data needed by scientific, U.S. government, and value-added industry users has been assured. At the same time, we are stimulating the development of a U.S. commercial remote sensing industry that will be competitive in the existing and growing global markets for value-added information products and the emerging market for high resolution land surface systems and data.

Finally, I think there's some common ground between our initiatives to promote the purchase of data sets from the private sector and some of the ideas in the draft. I would note that the FY97 Administration request for NASA's Mission to Planet Earth includes $50 million in funding specifically for NASA to purchase Earth science data sets from private industry. NASA has issued a Request for Information to explore the ability of industry to accept much of the financial risk while government becomes a data customer. My understanding is that some very interesting replies were received and are currently being analyzed.

In addition, NASA is committed to developing competitive partnership models for working with industry to acquire data and services, and in fact has just hosted a major government/industry workshop devoted to discussing a draft commercial strategy. We feel that an MTPE Commercial Strategy worked out jointly by NASA and industry will be of more value than the NASA study contemplated in the draft. NASA will conduct its first

comprehensive Biennial Review of MTPE in 1997, which will include exploration of commercial capability to supply data meeting MTPE science requirements. Both the MTPE Commercial Strategy and the biennial review will be managed by the MTPE Program Office at the Goddard Space Flight Center, NASA's lead center for MTPE. The Commercial Remote Sensing Program at Stennis Space Center will be a part of the biennial review team, but should not be designated in the bill as responsible for these activities.

In summary, there appear to be a number of areas -- including space commercialization, commercial spaceports, global position system policy and remote sensing -- where concepts in the discussion draft can form a basis for common ground. As the Subcommittee considers the draft legislation, we would like an opportunity to provide specific comments.

Mr.Chairman, this concludes my remarks. I would be happy to answer any questions you may have.

###

THE WHITE HOUSE

Office of Science and Technology Policy

For Immediate Release August 5, 1994

FACT SHEET

NATIONAL SPACE TRANSPORTATION POLICY

Introduction

The United States space program is critical to achieving U.S. national security, scientific, technical, commercial, and foreign policy goals. Assuring reliable and affordable access to space through U.S. space transportation capabilities is a fundamental goal of the U.S. space program. In support of this goal, the U.S. Government will:

(1) Balance efforts to sustain and modernize existing space transportation capabilities with the need to invest in the development of improved future capabilities;

(2) Maintain a strong space transportation capability and technology base, including launch systems, infrastructure, and support facilities, to meet the national needs for space transport of personnel and payloads;

(3) Promote the reduction in the cost of current space transportation systems while improving their reliability, operability, responsiveness, and safety;

(4) Foster technology development and demonstration to support future decisions on the development of next generation reusable space transportation systems that greatly reduce the cost of access to space;

(5) Encourage the cost-effective use of commercially provided U.S. products and services, to the fullest extent feasible, that meet mission requirements; and

(6) Foster the international competitiveness of the U.S. commercial space transportation industry, actively considering commercial needs and factoring them into decisions on improvements in launch facilities and launch vehicles.

This policy will be implemented within the overall resource and policy guidance provided by the President.

I. Implementation Guidelines

To ensure successful implementation of this policy, U.S. Government agencies will cooperate to take advantage of the unique capabilities and resources of each agency.

This policy shall be implemented as follows:

(1) The Department of Defense (DoD) will be the lead agency for improvement and evolution of the current U.S. expendable launch vehicle (ELV) fleet, including appropriate technology development.

(2) The National Aeronautics and Space Administration (NASA) will provide for the improvement of the Space Shuttle system, focusing on reliability, safety, and cost-effectiveness.

(3) The National Aeronautics and Space Administration will be the lead agency for technology development and demonstration for next generation reusable space transportation systems, such as the single-stage-to-orbit concept.

(4) The Departments of Transportation and Commerce will be responsible for identifying and promoting innovative types of arrangements between the U.S. Government and the private sector, as well as State and local governments, that may be used to implement applicable portions of this policy. U.S. Government agencies will consider, where appropriate, commitments to the private sector, such as anchor tenancy or termination liability, commensurate with the benefits of such arrangements.

(5) The Department of Defense and the National Aeronautics and Space Administration will plan for the transition between space programs and future launch systems in a manner that ensures continuity of mission capability and accommodates transition costs.

(6) The Department of Defense and the National Aeronautics and Space Administration will combine their expendable launch service requirements into single procurements when such procurements would result in cost savings or are otherwise advantageous to the Government. A Memorandum of Agreement will be developed by the Agencies to carry out this policy.

II. National Security Space Transportation Guidelines

(1) The Department of Defense will be the launch agent for the national security sector and will maintain the capability to evolve and operate those space transportation systems, infrastructure, and support activities necessary to meet national security requirements.

(2) The Department of Defense will be the lead agency for improvement and evolution of the current expendable launch vehicle fleet, including appropriate technology development. All significant ELV technology-related development associated with medium and heavy-lift ELVs will be accomplished through the DoD. In coordination with the DoD, NASA will continue to be responsible for implementing changes necessary to meet its mission-unique requirements.

(3) The objective of DoD's effort to improve and evolve current ELVs is to reduce costs while improving reliability, operability, responsiveness, and safety. Consistent with mission requirements, the DoD, in cooperation with the civil and commercial sectors, should evolve satellite, payload, and launch vehicle designs to achieve the most cost-effective and affordable integrated satellite, payload, and launch vehicle combination.

(a) ELV improvements and evolution plans will be implemented in cooperation with the Intelligence Community, the National Aeronautics and Space Administration and the Departments of Transportation and Commerce, taking into account, as appropriate, the needs of the commercial space launch sector.

(b) The Department of Defense will maintain the Titan IV launch system until a replacement is available.

(4) The Department of Defense, in cooperation with NASA, may use the Space Shuttle to meet national security needs. Launch priority will be provided for national security missions as governed by appropriate NASA/DoD agreements. Launches necessary to preserve and protect human life in space shall have the highest priority except in times of national emergency.

(5) Protection of space transportation capabilities employed for national security purposes will be pursued commensurate with their planned use in crisis and conflict and the threat. Civil and commercial space transportation capabilities identified as critical to national security may be modified at the expense of the requesting agency or department. To the maximum extent possible, these systems, when modified, should retain their normal operational utility.

III. Civil Space Transportation Guidelines

(1) The National Aeronautics and Space Administration will conduct human space flight to exploit the unique capabilities and attributes of human access to space. NASA will continue to maintain the capability to operate the Space Shuttle fleet and associated facilities.

(a) The Space Shuttle will be used only for missions that require human presence or other unique Shuttle capabilities, or where use of the Shuttle is determined to be important for national security, foreign policy or other compelling purposes.

(b) The National Aeronautics and Space Administration will maintain the Space Shuttle system until a replacement is available.

(c) As future development of a new reusable launch system is anticipated, procurement of additional Space Shuttle orbiters is not planned at this time.

(2) The National Aeronautics and Space Administration will be the lead agency for technology development and demonstration of next generation reusable space transportation systems.

(a) The objective of NASA's technology development and demonstration effort is to support government and private sector decisions by the end of this decade on development of an operational next-generation reusable launch system.

(b) Research shall be focused on technologies to support a decision no later than December 1996 to proceed with a sub-scale flight demonstration which would prove the concept of single-stage-to-orbit.

(c) Technology development and demonstration, including operational concepts, will be implemented in cooperation with related activities in the Department of Defense.

(d) It is envisioned that the private sector could have a significant role in managing the development and operation of a new reusable space transportation system. In anticipation of this role, NASA shall actively involve the private sector in planning and evaluating its launch technology activities.

IV. Commercial Space Transportation Guidelines

(1) The United States Government is committed to encouraging a viable commercial U.S. space transportation industry.

(a) The Departments of Transportation and Commerce will be responsible for identifying and promoting innovative types of arrangements between

the U.S. Government and the private sector, as well as State and local governments, that may be used to implement applicable portions of this policy.

(b) The Department of Transportation will license, facilitate, and promote commercial launch operations as set forth in the Commercial Space Launch Act, as amended, and Executive Order 12465. The Department of Transportation will coordinate with the Department of Commerce where appropriate.

(c) U.S. Government agencies shall purchase commercially available U.S. space transportation products and services to the fullest extent feasible that meet mission requirements and shall not conduct activities with commercial applications that preclude or deter commercial space activities, except for national security or public safety reasons.

(d) The U.S. Government will provide for the timely transfer to the private sector of unclassified Government-developed space transportation technologies in such a manner as to protect their commercial value.

(e) The U.S. Government will make all reasonable efforts to provide stable and predictable access to appropriate space transportation-related hardware, facilities, and services; these will be on a reimbursable basis. The U.S. Government reserves the right to use such facilities and services on a priority basis to meet national security and critical civil sector mission requirements.

(f) U.S. Government agencies shall work with the U.S. commercial space sector to promote the establishment of technical standards for commercial space products and services.

(2) U.S. Government agencies, in acquiring space launch-related capabilities, will, to the extent feasible and consistent with mission requirements:

(a) Involve the private sector in the design and development of space transportation capabilities and encourage private sector financing, as appropriate.

(b) Emphasize procurement strategies that are based on the use of commercial U.S. space transportation products and services.

(c) Provide for private sector retention of technical data rights, limited only to the extent necessary to meet government needs.

(d) Encourage private sector and State and local government investment and participation in the development and improvement of U.S. launch systems and infrastructure.

V. Trade in Commercial Space Launch Services

(1) A long term goal of the United States is to achieve free and fair trade. In pursuit of this goal, the U.S. Government will seek to negotiate and implement agreements with other nations that define principles of free and fair trade for commercial space launch services, limit certain government supports and unfair practices in the international market, and establish criteria regarding participation by space launch industries in countries in transition from a non-market to a market economy.

(a) International space launch trade agreements in which the U.S. is a party must allow for effective means of enforcement. The range of options available to the U.S. must be sufficient to deter and, if necessary, respond to non-compliance and provide effective relief to the U.S. commercial space launch industry. Agreements must not constrain the ability of the United States to take any action consistent with U.S. laws and regulations.

(b) International space launch trade agreements in which the U.S. is a party must be in conformity with U.S. obligations under arms control agreements, U.S. nonproliferation policies, U.S. technology transfer policies, and U.S. policies regarding observance of the Guidelines and Annex of the Missile Technology Control Regime (MTCR).

VI. Use of Foreign Launch Vehicles, Components, and Technologies

(1) For the foreseeable future, United States Government payloads will be launched on space launch vehicles manufactured in the United States, unless exempted by the President or his designated representative.

(a) This policy does not apply to use of foreign launch vehicles on a no-exchange-of-funds basis to support the following: flight of scientific instruments on foreign spacecraft, international scientific programs, or other cooperative government-to-government programs. Such use will be subject to interagency coordination procedures.

(2) The U.S. Government will seek to take advantage of foreign components or technologies in upgrading U.S. space transportation systems or developing next

generation space transportation systems. Such activities will be consistent with U.S. nonproliferation, national security, and foreign policy goals and commitments as well as the commercial sector guidelines contained in this policy. They will also be conducted in a manner consistent with U.S. obligations under the MTCR and with due consideration given to dependence on foreign sources and national security.

VII. Use of U.S. Excess Ballistic Missile Assets

(1) U.S. excess ballistic missile assets that will be eliminated under the START agreements shall either be retained for government use or be destroyed. These assets may be used within the U.S. Government in accordance with established DoD procedures, for any purpose except to launch payloads into orbit. Requests from within the Department of Defense or from other U.S. Government agencies to use these assets for launching payloads into orbit will be considered by the DoD on a case-by-case basis and require approval by the Secretary of Defense.

Mindful of the policy's guidance that U.S. Government agencies shall purchase commercially available U.S. space transportation products and services to the fullest extent feasible, use of excess ballistic missile assets may be permitted for launching payloads into orbit when the following conditions are met:

(a) The payload supports the sponsoring agency's mission.

(b) The use of excess ballistic missile assets is consistent with international obligations, including the MTCR guidelines and the START agreements.

(c) The sponsoring agency must certify the use of excess ballistic missile assets results in a cost savings to the U.S. Government relative to the use of available commercial launch services that would also meet mission requirements, including performance, schedule, and risk.

VIII. Implementing Actions

(1) Within 90 days of approval of this directive, United States Government agencies are directed to prepare the following for submission to the Assistant to the President for Science and Technology and the Assistant to the President for National Security Affairs:

(a) The Secretaries of Defense, Commerce, Transportation, and the Administrator of the National Aeronautics and Space Administration, with appropriate input from the Director of Central Intelligence, will provide a report that will include a common set of requirements and a coordinated technology plan that addresses the needs of the national security, civilian, and commercial space launch sectors.

(b) The Secretary of Defense, with the support of other agencies as required, will provide an implementation plan that includes schedule and funding for improvement and evolution of the current U.S. ELV fleet.

(c) The Administrator of the National Aeronautics and Space Administration, with the support of other agencies as required, will provide an implementation plan that includes schedule and funding for improvements of the Space Shuttle system and technology development and demonstration for next generation reusable space transportation systems.

(d) The Secretaries of Transportation and Commerce, with the support of other agencies as required and U.S. industry, will provide an implementation plan that will focus on measures to foster an internationally competitive U.S. launch capability. In addition, the Secretaries will provide recommendations to the Department of Defense and the National Aeronautics and Space Administration that promote the full involvement of the commercial sector in the NASA and DoD plans.

Talking Points – Space Launch Policy August 5, 1994

- This Administration has made science and technology a high priority item on the national agenda. Our national space transportation capability is a fundamental part of pursuing science and technology in the national interest. The Administration's new launch policy recognizes this and sets a firm foundation for the U.S. future in space.

- The Administration's policy sets a clear course for the nation's space program, providing a coherent strategy for supporting and strengthening U.S. space launch capability to meet the growing needs of the civilian, national security and commercial sectors.

- Under the previous Administration, the nation committed itself to building a new expendable launch vehicle through a joint NASA-DoD program. In the current budget environment, and in light of recent advances in reusable technologies, continuing such an approach would neither be affordable or effective.

- The new policy establishes roles and responsibilities for the chief agencies -- NASA and DoD -- by clearly assigning each agency a lead role. The DoD will be the lead agency for modernizing and evolving current ELV systems. NASA will be the lead agency for development and demonstration of next generation reusable launch systems, such as the single-stage-to-orbit concept.

- NASA will be pushing the cutting edge of technology, focusing their investments on the development and demonstration of a next generation reusable system. The policy calls for a decision to be made no later than December 1996 on whether to proceed with a sub-scale flight test to prove the concept of single-stage-to-orbit. The goal of this effort is to support a decision by the end of the decade on the development of an operational next-generation reusable launch system.

- DoD will be the lead agency for modernization and evolution of our current ELV fleet, taking prudent cost-effective measures to improve their performance, reduce costs and increase reliability to support national needs. In doing so, the DoD will factor in the needs of the commercial space launch industry, with a view towards keeping America competitive in the global launch services market.

- The policy also recognizes the critical role that the private sector plays in space transportation and sends a strong signal to business that the government wants to pursue our national goals in partnership with industry. The Departments of Transportation and Commerce are specifically tasked with the job of identifying promising areas for government-industry partnerships and ensuring that these opportunities are factored into NASA and DoD efforts.

- The new policy also positions the U.S. to take advantage of new opportunities in the post-Cold War era, providing guidance to agencies on the use of foreign launch systems, components and technologies.

Mr. SENSENBRENNER. Thank you, Mr. Johns.

Lt. Gen. Armstrong, I guess you're next up.

STATEMENT OF SPENCE M. ARMSTRONG, ASSOCIATE ADMINISTRATOR, HUMAN RESOURCES AND EDUCATION, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Mr. ARMSTRONG. Thank you, Mr. Chairman.

First I'd like to introduce Mr. Ed Frankle, NASA's general counsel who is here to back me up in case there are any legal issues.

I was asked to make an oral statement for about five minutes, and I'll attempt to do that.

It turns out that about three years ago exactly that Ed Frankle and I were here before this committee to push for a NASA-only buy-out. The committee was very supportive of it. Unfortunately, we were not successful because of something known as PAYGO which we weren't very familiar with at the time.

But we were in a problem because when we redesigned the space station, as Dr. Johns has said, the Congress immediately took some FTE out of our budget so we were headed for a problem in 1994.

We did get the buy-out; we did exercise it. We were looking for 825; we got 2,000 applications, and were able to take 1,200, and that got us below the line that we were trying to do.

We were also on a 13-percent decrease at that time. Things were going along well until calendar year '95, and we were hit with a three, five, seven, and nine percent reduction in our budget, starting in '97.

We did two things immediately. We commissioned a ZBR, zero-based review team, of senior managers to go all over our agency to find places where we could consolidate and cut back. We also initiated a second round of the buy-out even though we had said earlier that we didn't need to do that, because as a result of the zero-based review, we then changed from a decrease of staffing from 13 percent to 30 percent.

In the meantime, the zero-based review team came up with the idea that we needed to establish 11 science institutes located adjacent to our centers.

In trying to benchmark and set those up, there were a couple of impediments to that, one being the affordability of the benefits for the NASA scientist who would be employable by the institute, and the other being the restrictions on post-employment that NASA employees would have, especially if they were involved in doing anything with the statement of work, or the source selection.

So we submitted those early on. Those went through the process within the Administration. We got some responses from the Office of Government Ethics and from OPM, which I mentioned in my testimony.

Basically they were concerned about the precedent. They recognized the need perhaps to do it, but they felt it should be government-wide, as opposed to agency only.

At the same time that we did that, later on we realized that we were going to have a problem in meeting our FTE in the out years starting in '98. So we started a motion to get our own buy-out after the government-wide buy-out did not go forward, and toyed with a number of different pieces of that.

You asked me in your letter to talk about the $50,000; I'll be prepared to do that.

We also asked each of our centers to tell us what they were going to need in the year 2000, because this was not a 30 percent across the board, but it was by location, by program.

So basically, we asked him to come back and say, "Okay, today you've got X; in the year 2000, you've got Y. What's the difference?" It's that delta of about 3,500 that we would target for buy-out; we would target for retraining while we have time; or in the final analysis we may have to target for a RIF.

Those inputs have been received. They have not been studied yet. So at this stage of the game, we are still trying very hard to get a buy-out that's applicable for NASA. We've settled on 25,000 since that was in the Senate Authorization and the Senate Appropriation Bill.

We'd like to have it as soon as possible so that we can begin that as soon as the FY begins.

That concludes my opening statement, sir.

[The prepared statement of Mr. Armstrong follows:]

Witness # 1
Tape # 1 16

Hold for Release Until
Presented by Witness

National Aeronautics and
Space Administration

July 24, 1996

Subcommittee on Space and Aeronautics

Committee on Science

House of Representatives

Statement by:
Spence M. Armstrong
Associate Administrator
Human Resources and Education

104th Congress

Statement of

Spence M. Armstrong
Associate Administrator for Human Resources and Education
National Aeronautics and Space Administration

before the

Subcommittee on Space and Aeronautics
Committee on Science
U.S. House of Representatives

July 24, 1996

Mr. Chairman and Members of the Committee, thank you for inviting me to address the Subcommittee on two sections of the proposed bill which are related to NASA's streamlining process: Section 103 on Exceptions to Employment Restrictions, and Section 104 on Benefits for Certain Employees Transferring from NASA. As you know, NASA is undergoing fundamental changes in the way it conducts business. Not only are we addressing challenges of reducing and restructuring our workforce to perform our mission faster, better, and cheaper, but we are also looking to change the way in which we interact with industry and the scientific and academic communities. As an example, NASA recently studied the concept of establishing science institutes as a potentially beneficial approach to maintain or improve the quality of national science in the face of organizational streamlining.

Turning to the specifics of the proposed legislation, Section 103 of the Space Commercialization Promotion Act of 1996 would provide exceptions from certain post-Government employment restrictions. Current law prohibits former Government employees from representing their private sector employer before any Federal department or in any judicial proceeding. This restriction is permanent for any matter in which the employee participated personally and substantially while with the Government, but only for two years for any matters pending under the employees official responsibilities within one year before his or her departure from the Government. In addition, former senior personnel, such as those paid at the rate for level V of the Executive Schedule, are prohibited from making contact with their former Agency on behalf of their new employer for one year after their departure. As a result of Section 103, many NASA employees who accepted employment with the Space Flight Operations Contract (SFOC) contractor or "an organization receiving an award as a result of "NASA" streamlining activities" would not be covered by these post-Government employment restrictions.

Section 104 would provide pension portability and extension of health benefits to individuals who accept employment with the SFOC contractor or organizations receiving awards from streamlining activities, within one year of the award.

When we at NASA looked into the ideas of consolidating Space Shuttle contractor operations in one single prime contract and of establishing science institutes, we found many benefits but also some pitfalls. It became clear to us that some number of NASA employees with critical jobs that cannot be adequately replaced by the private contractor would be reluctant to consider employment outside of the Federal Government due in part to the loss of civil service benefits.

Prior Federal Government privatization efforts, involving the portability of benefits such as the transfer of the Alaska Railroad in 1983 and the Airport Authority in 1985 have proven successful. The Administration believes that NASA's situation is significantly different from these earlier privatization efforts involving the portability of benefits. NASA's situation would involve the movement of functions within an organization; prior privatization efforts involving portability included the movement of entire organizations. The Administration believes that using government employment benefits to encourage former government employees to become employees of a government contractor is inappropriate and that it would be inequitable to single out NASA's former employees for special treatment.

Both the executive and legislative branches are exploring various mechanisms for transferring government functions to the private sector. Conflict of interest and portability of benefits issues can arise in conjunction with such transfers. However, since current law does not specifically prohibit NASA employees from accepting jobs in private industry, the Administration believes that these agency-specific proposals are not appropriate.

In your letter inviting me to testify, you indicated that you would also welcome our comments on our proposed buyout legislation.

NASA is committed to a total restructuring of the agency. Over the past several years, we have been dealt our share of deficit-reduction-driven budget cuts, and we have stepped up to them. NASA has aggressively redesigned itself to become more efficient and more relevant, and to make real changes in its thinking, culture and products. Looking ahead, the agency needs to continue to restructure in an orderly, well-reasoned fashion; deliver a space and aeronautics program that is relevant, balanced and stable; and protect the dignity of its employees. Separation incentives, or buyouts, would provide NASA with the optimum mechanism for achieving these goals. Properly managed, buyouts would enable the agency to manage within budget and provide a cost savings

over non-voluntary separation methods. This need has been recognized through inclusion of a buyout provision in the Senate mark-up of the VA-HUD-Independent Agencies appropriations bill.

NASA began its restructuring efforts in 1993 with a workforce of approximately 25,000 civil servants. The prospect of greatly reduced future funding levels and the need to do more with less necessitated a radical change in the way we do business. Our managers undertook a comprehensive zero base review to totally redefine our roles and missions and program management structures. We now can describe a clear vision for NASA into the next century. We determined that our workforce by the year 2000 should comprise 17,500 civil servants, a 30% reduction from our 1993 number. At just under 21,000 today, we stand at the halfway point in our downsizing efforts.

We have been fortunate in being able to reach this point without resorting to reduction in force, largely due to strict hiring restrictions and two previous successful buyout programs. In 1994 and again in 1995, we offered buyouts at NASA, and attracted 2600 employees to leave the agency voluntarily. NASA implemented a logical, measured approach to buyout which achieved our short-term goals and received critical acclaim from employees, managers and unions. Both the Office of Personnel Management and the Office of Management and Budget recognized ours as a model program.

Unfortunately, the legislative authority to offer buyouts has expired, and our need to downsize by approximately 3,500 employees comes at a time when our attrition hovers at a historically low 3%. Without buyout, we could be forced to resort to a reduction in force, which would be devastating to the agency in terms of cost, implementation time, disruption, and morale, and result in a workforce which is older, less diverse, and paid at a much higher average salary. Given our limited resources, our goal is to have the right person in the right job, at the right time. A carefully planned and executed buyout program will allow us to achieve our downsizing goals in a humane, dignified manner, while maintaining the flexibility to correct areas of skill imbalances caused by restricted hiring and shifting mission focus. It will help us to entice long-time, higher-salaried workers to move on, while preserving the vitality of our scientific and engineering programs represented by our many talented and enthusiastic newer workers who are the future leaders of America's aeronautics and space programs.

We are blessed with thousands of dedicated, enormously talented individuals who are deeply committed to NASA and its mission. Unfortunately, this very devotion to their work actually presents a detriment to the agency in times of downsizing. Statistics show that our employees seek out NASA as a preferred employer, become involved in projects which become their life's work, and remain far beyond the average retirement age. Our goal is to obtain voluntary

separations of a sizable number of employees, while still being affordable to the Agency and the taxpayers, and costing no more than a reduction in force.

We are gratified that the Senate Committee on Appropriations has included in H.R. 3666, the FY 1997 VA-HUD-Independent Agencies appropriations bill, a provision which would permit the Administrator to implement a voluntary separation or "buyout" program. We urge the Congress to provide NASA buyout authority of up to $25,000 to increase voluntary turnover, whether by retirement or resignation. This buyout is to be made available only during a specified and limited period, requiring no additional NASA appropriations beyond proposed budgets. I can promise you today that we will carefully plan and manage our buyout program, as we did before. We will offer it at the right time, to the right people, and for the right reasons.

Thank you again for the opportunity to speak to you about these initiatives. I will be happy to entertain any questions which you may have.

Mr. SENSENBRENNER. Thank you, Lt. Gen. Armstrong.
Mr. Klinger?

STATEMENT OF GIL I. KLINGER, PRINCIPAL ASSISTANT DEPUTY UNDER SECRETARY OF DEFENSE FOR SPACE, DEPARTMENT OF DEFENSE

Mr. KLINGER. Mr. Chairman, I'm Gil Klinger—excuse me—the Deputy Under Secretary of Defense for Space. I appreciate the opportunity to appear before you today to comment on the draft Space Commercialization Promotion Act of 1996.

As you suggested, I'll try and save some time, just commenting on the key points of interest to the Department of Defense, although my written statement has been submitted for the record. My comments will provide our initial thoughts on the draft legislation.

First I'd like to briefly mention DOD's role in supporting commercial space activities, both in the past and the future. Then I'll briefly summarize a few critical issues that have emerged in our initial review of the draft legislation.

The Department of Defense is committed to enabling and assisting the commercial space sector. We've already accomplished much through streamlined acquisition procedures, decreased military specifications, and increased use of commercial products and services.

This is evident in a number of our programs, including the evolved expendable launch vehicle, the global positioning system, and the global broadcast system.

The department helped build, as all of you know, and still uses a substantial portion of the U.S. space launch infrastructure that has been so essential for the U.S. commercial launch industry to compete successfully in the world marketplace.

In fact, we're planning to make several substantial improvements in this infrastructure in the near future; specifically, allocating $750 million for range standardization and automation, and $2 billion for the evolved expendable launch vehicle I mentioned a few moments ago.

We believe that these will further aid the competitiveness of our commercial industry.

Commercial launch activity is rapidly overtaking DOD launch activity on federal ranges, and therein we are faced with a new concern. The increase in commercial activity is dramatically shrinking the excess capacity of our launch bases, and stressing them with additional work.

Twenty-five of the 36 new programs introduced at our launch bases in the past two years are commercial. Some of these programs involve construction of new facilities, or multiple commercial operators using the same existing facilities.

This will increase the burden on our DOD launch infrastructure. Yet the only recoverable costs for commercial activities on federal ranges are direct costs. This will not adequately support needed long-range operations maintenance and improvements to the federal launch ranges.

The consequences of this situation for both government and commercial launch services could be deteriorating facilities and dimin-

ishing DOD support, simply due to the stretching of scarce resources.

In the face of increasing use of the federal launch infrastructure by the commercial sector, we need to remember that, by law, DOD may plan and budget for, and receive appropriations only for national security launch activities. We need to address the increasing burden that commercial launch activities are, and will continue to place on our launch infrastructure.

Let me emphasize that we're absolutely willing to continue our support for commercial launch activities. My only point here is that we need to be cognizant of the rising costs associated with the launch business in general, and to examine options to resolve the issues that arise as a consequence.

We're also preparing federal guidelines through an interagency working group that includes DOD, the Department of Transportation, NASA, and the Department of Commerce on commercial sector access to federal launch ranges and launch property which will improve and clarify federal support.

Now onto the issues that emerged during our review of the draft legislation. There are three—the mandating of commercial launch services for DOD payloads, the licensing of commercial remote sensing systems, and the use of excess U.S. ballistic missiles.

Whenever it is appropriate and cost-effective, the department fully supports increased use of commercial services and products, instead of continuing to rely upon DOD developed, procured, owned, and operated systems.

However, before making any major changes to our current practices, we need to carefully evaluate the merits and demerits of increased reliance on commercial launch services. Some key issues still have to be resolved.

Therefore, we believe that to legislate a requirement at this time for us to shift to commercial services exclusively would be premature, could damage our ability to meet our national security agreements, and prove very costly, both to the department and to the nation.

With regard to remote sensing, we do not believe that it is appropriate to require the Secretary of Defense to coordinate his recommendations to the Secretary of Commerce on the licensing of U.S. commercial systems with two congressional committees, the House Science Committee and the Senate Commerce Committee.

If required by law, this congressional coordination should be accomplished at the end of the interagency process.

With regard to excess U.S. ballistic missiles, we believe that the existing presidential policy defining the ground rules for their use is currently sufficient. It will enable us to use them if they are more cost-effective than any existing commercial launch services available.

Finally, I would like to take this opportunity to ask for some additional time to refine our comments on this draft legislation with other groups, both within the Department of Defense and other agencies, and to provide a more detailed and consolidated input at a later date.

Thank you again for giving me this opportunity, both to initially comment on the proposed legislation, and to share with your our plans to improve the nation's access to space.

[The prepared statement of Mr. Klinger follows:]

STATEMENT OF THE

PRINCIPAL ASSISTANT DEPUTY UNDER SECRETARY OF

DEFENSE FOR SPACE

MR. GIL I. KLINGER

BEFORE THE

HOUSE COMMITTEE ON SCIENCE

SUBCOMMITTEE ON SPACE AND AERONAUTICS

31 JULY 1996

Not for publication

Until Released by the House Science Committee

Introduction

Thank you for inviting me to appear before you today to discuss your draft Space Commercialization Promotion Act of 1996. I appreciate your considering the inputs of affected Executive Branch agencies in crafting this legislation, and I welcome this opportunity to present the views of the Department of Defense on this topic of national importance. After the Department has thoroughly reviewed the Act and has worked it through the interagency process, we will provide more detailed inputs.

Overview of DoD Support for Commercial Space Launch Activities

I commend you for your support and encouragement of the commercial space sector. The Department of Defense is committed to enabling and assisting the commercial space sector, and we have already accomplished much through streamlined acquisition procedures, decreased milspecs, and increased use of commercial products and services. This is evident in a number of our new programs, including the Evolved Expendable Launch Vehicle, The Global Positioning System, and the Global Broadcast System. As you are well aware, the Department of Defense has a pivotal enabling role in the activities of the U.S. commercial space sector through our stewardship of U.S. launch capabilities, and ranges at Cape Canaveral Air Station in Florida and Vandenberg Air Force Base in California. As directed by National policy and Federal law, the Department of Defense provides stable and predictable access to launch property and services on a direct-cost basis for commercial space operations.

I'd like to take a moment to briefly highlight how well the Department of Defense, and its Executive Agent for space launch the U.S. Air Force, have carried out their responsibility to facilitate and encourage U.S. commercial space launch activities:

-- The Air Force Medium Launch Vehicle (MLV) and MLV II contracts for Delta and Atlas launches acted as major catalysts to the U.S. commercial space launch industry, and allowed U.S. launch vehicle builders to use U.S. Government-owned processing facilities, launch pads, and ranges to build and launch commercial vehicles at marginal cost.

-- As a measure of success, for the first time ever, U.S. commercial space launches outnumbered government expendable launches at Cape Canaveral Air Station in FY 96. The same will be true at both Cape Canaveral and Vandenberg in FY 97.

-- The Air Force enabled the initial development of spaceports in California, Florida, New Mexico, Alaska, and Virginia by distributing seed money in both FY 93 and 94 through the Dual Use Space Launch Infrastructure Grant Program.

-- DoD stewardship of our launch capabilities requires a substantial investment -- most of which benefits the U.S. commercial space launch industry by providing maintenance of shared-use facilities and modernization of range and launch capabilities.

-- Nearly $400M per year goes toward operation and maintenance of Atlas and Delta launch capabilities and the ranges at both coasts.

-- In addition, the Air Force is pursuing a $750M range modernization program over ten years that will benefit both government and commercial operations by making the range more responsive and less expensive to operate.

-- And finally, the $2B Evolved Expendable Launch Vehicle program will result in a family of modernized launch vehicles focused on reducing operating costs by 25 to 50%, a substantial boon to U.S. competitiveness.

The Increasing Burden

With commercial launch activity rapidly overtaking DoD launch activity on federal ranges, we are faced with a new concern. This increase in commercial activity is shrinking the excess capacity of our launch bases dramatically and stressing them with additional work. Twenty-five of the 36 new programs introduced at our launch bases in the past two years are commercial. The nature of these new commercial space programs require higher levels of government involvement than commercial activities which use the existing Air Force infrastructure. Some of these new commercial programs involve construction of new facilities, or multiple commercial operators using the same facilities.

This expanded commercial use will increase the burden on our DoD launch infrastructure. However, by law, the only recoverable costs for commercial activities on federal ranges are direct costs. This will not adequately support needed long range operations, maintenance, and improvements to the federal launch ranges. The consequences of this situation for both Government and commercial launch services could be deteriorating facilities and diminished DoD support due to the stretching of resources.

In the face of this increasing use of the federal launch infrastructure by the commercial sector, we need to remember that, by law, DoD may plan and budget for, and receive appropriations, only for national security launch activities. We need to address the increasing burden that commercial launch activities are placing, and will continue to place, on our launch infrastructure. Let me emphasize that we are absolutely willing to continue our support for commercial launch activities. This is a policy issue, however, which must be addressed. We need to be cognizant of this rising cost and examine options to resolve this issue.

As part of this resolution, the Department, as a member of an Interagency Working Group that includes DoT, NASA and DoC, is preparing federal guidelines for commercial sector access to federal launch ranges and launch property, which will improve and clarify federal support.

General DoD Reactions to Proposed Bill

With those examples as a backdrop to illustrate the importance of DoD stewardship of U.S. launch capabilities, and its importance to the U.S. commercial space sector, I would now like to discuss the draft Space Commercialization Promotion Act of 1996.

Commercial Space Launch

We request that the definitions used in this bill be consistent with the Commercial Space Launch Act, as codified. For instance, "payload" is already defined there, as are "launch vehicle," "launch property" and "launch services" which we see as sufficiently inclusive terms, compared with "space transportation vehicle and services." We agree that it would be appropriate to

expand the definition of "launch services" to include "activities directly related to the preparation of a launch site or a payload facility for one or more launches." We would also like to see this definition include pre-launch modification of launch sites or payload facilities. This addition makes it explicit that facility modification work is one type of service the government can offer to commercial users of our launch property -- something the Navy plans to do regularly at SLC-46 at Cape Canaveral Air Station to facilitate Spaceport Florida's commercial operations. This definition could also help clarify the scope of commercial activities on DoD installations for which DoT should issue licenses and establish financial responsibility requirements in coordination with DoD.

We see the draft bill's reference to "state-sponsored spaceports" as overly restrictive in the section of the Commercial Space Launch Act that directs the federal government to make excess launch property and services available for commercial use. Mr. Weaver, the FAA Associate Administrator for Space Transportation, and I are co-chairing an interagency working group, with NASA and Department of Commerce participation, to address federal government interaction with spaceports, including the relative priorities of private sector and state government requests for access to Federal property. We would prefer to craft an inclusive definition of "spaceports" and "commercial launch site operators" through the interagency working group that is actively developing federal policy guidelines for interactions with spaceports.

We also believe that granting the proposed licensing authority to states could pose a problem of appropriate oversight, and this should be carefully considered by Congress, DoD, DoT, and NASA.

Remote Sensing

In accordance with Presidential Decision Directive 23, DoD must retain the ability to continue to satisfy national security requirements through the most cost-effective mix of government-owned and operated space systems along with civil, commercial, and international systems and capabilities. An integral part of this approach includes DoD ownership and control of systems and capabilities for important national security requirements, even when commercial systems could produce similar data. Therefore, the Department of Defense requests your support in maintaining national security requirements.

Land Remote Sensing Policy Act Amendments

The Land Remote Sensing Policy Act has encouraged commercial entrants into the space-based remote sensing market. It has also underlined the importance of operating a commercial system in a manner which preserves the national security of the U.S. We strongly recommend that the Secretary of Defense recommendation on each license request to the Secretary of Commerce be treated as a working-level document. The Secretary of Commerce, upon completion of the review of the proposed operating license or amendment, may supply a copy of the formal response to the Legislative Branch at that time.

Requirement to Procure Commercial Space Transportation Services

Consistent with National Space Transportation Policy (NSTC-4), DoD will retain ownership and control for the near to mid-term of systems and capabilities to ensure access to space for important national security requirements. As we stated earlier, we fully support increased use,

wherever appropriate, of commercial services and products instead of continuing to rely on DoD developed, procured, owned, and operated systems. In that regard, we recognize and support an evaluation of the potential for increasing our reliance on commercial launch services. Before making any major changes to our current practices, however, we need to answer a number of key issues, including: 1) the division of labor and responsibility between the private sector and DoD; 2) the impact on DoD launch costs of a shift to commercial services; and 3) the impact of any alternative to maintaining the initial national and DoD mission of assured access to space in support of national security objectives. At this point, we do not have the answers to these questions, but we will do the work necessary to resolve these issues in the near future. Thus, we believe that to legislate a requirement at this time for us to shift to using commercial services exclusively is premature; could damage our ability to meet our national security requirements; and prove very costly to the nation.

Our acquisition approach for EELV allows the competing bidders to propose the most appropriate operational concept to reduce launch costs. We do not want to presuppose or dictate solutions in the EELV program. Instead, we want to buy to a performance specification to meet a cost goal. We believe that the EELV program is the best opportunity we have, both to reduce launch costs for the nation, and to benefit the U.S. commercial space launch industry by developing an improved, lower cost family of launch vehicles to address the growing commercial demand for larger, heavier, and more numerous satellites in a variety of orbits. We request your support in granting DoD the flexibility to develop our operational concept.

Use of Excess ICBMs

The Department of Defense recommends using the current National Space Transportation Policy (NSTC-4), as follows, on the use of excess ICBMs:

"(a) IN GENERAL. -- U.S. excess ballistic missile assets that will be eliminated under the START agreements shall either be retained for government use or be destroyed. These assets may be used within the U.S. Government in accordance with established DoD procedures, for any purpose except to launch payloads into orbit. Requests from within the Department of Defense or from other U.S. Government agencies to use these assets for launching payloads into orbit will be considered by the DoD on a case-by-case basis and require approval by the Secretary of Defense."

"(b) AUTHORIZED FEDERAL USES. -- Mindful of guidance that U.S. Government agencies shall purchase commercially available U.S. space transportation products and services to the fullest extent feasible, use of excess ballistic missile assets may be permitted for launching payloads into orbit when the following conditions are met:

(1) The payload supports the sponsoring agency's mission.

(2) The use of excess ballistic missile assets is consistent with international obligations, including the MTCR guidelines and the START agreements.

(3) The sponsoring agency must determine that the use of excess ballistic missile assets results in a cost savings to the U.S. Government relative to the use of

available commercial launch services that would also meet mission requirements, including performance, schedule, and risk."

This language: (1) Imposes no additional reporting requirements on DoD in addition to those already in place for DoD budget documentation, (2) Ensures that DoD retains control of all excess ICBMs, as required, to comply with international arms control treaties, and precludes unauthorized transfer of missile components and technology under the Missile Technology Control Regime, (3) Allows the Federal Government to take advantage of any cost savings available from converting excess ICBMs to space launchers, even if the conversion doesn't result in savings of more than 50% of the cost of launch and (4) Retains the focus on using the commercial sector for space launch services when their product is more cost effective.

CONCLUSION

I'd like to sum up my comments today with a few observations. DoD played a pivotal role in enabling the U.S. commercial launch industry to get started, and we have a long and successful history of supporting commercial space launch activities at our launch bases. We are proud of the stewardship that we have provided for the U.S. space launch infrastructure. It has been essential to enabling the U.S. commercial space launch industry to compete successfully in the world market. We are making substantial investments for the future to further improve the competitiveness of the U.S. commercial space launch industry -- including $750 million dollars for range standardization and automation, and $2 billion dollars for the EELV. Enabled by our successful stewardship, we recognize that U.S. commercial space activities are likely to expand

in the near future, and U.S. commercial expendable launches will soon consistently outnumber DoD and NASA expendable launches.

Contributing to another aspect of this expansion, DoD initially enabled the development of commercial spaceports through the Space Launch Infrastructure Grant Program. The commercial spaceport projects currently underway on DoD installations are focused exclusively on small expendable launch vehicles. They neither aim to, nor will be capable of, supporting more than research and development missions for DoD, and we are actively pursuing options for them to participate in that area only. To ensure a consistent and coherent approach, DoD is actively co-chairing an interagency effort to address all aspects of federal government interaction with spaceports, both to facilitate and encourage their success and the continued success of the U.S. commercial space launch industry.

Finally, I would like to thank the Committee for this opportunity to initially comment on the proposed Space Commercialization Promotion Act of 1996, and to share our plans for continuing our stewardship of America's access to space. We would like some additional time to refine our comments on this draft legislation with other groups, both within the Department and in other agencies, and provide a more detailed and consolidated input at a later date.

Mr. SENSENBRENNER. Thank you, Mr. Klinger.

To start out the questions, I'd like to ask several questions of both Mr. Armstrong and Mr. Johns relative to the transitioning of people who are presently civil servants in NASA to the United Space Alliance, which has the single prime contract to operate the space shuttle.

Mr. Armstrong, do you believe that the NASA administrator has the authority to waive the federal post-employment restrictions for NASA employees joining the private sector, USA specifically, if doing so serves the national interest?

Mr. ARMSTRONG. This is an occasion where if I think very quickly, I'm going to have to ask Mr. Frankle to help me on this.

Mr. SENSENBRENNER. Mr. Frankle, please step forward.

Mr. FRANKLE. Good morning, Mr. Chairman—good afternoon.

Mr. SENSENBRENNER. Why don't you pull up your chair, because I think you'll be there awhile.

[Laughter.]

Mr. FRANKLE. I'll be delighted.

So the post-employment restrictions generally are contained in 18 USC Section 207. There are three main ones.

The first one puts a lifetime bar on people who are personally substantially involved in a particular matter involving particular parties while they were working for the government.

Another one puts a two-year restriction on them, representing a particular party on a particular matter, which was under their official responsibility.

Then for a third group, senior officials, who basically are defined for this purpose, are people in senior executive service, grade 5 or higher—have a one-year no contacts rule on behalf of anybody with their prior agency.

With respect to moving to the SFOC contract and going to work for the Alliance, there are several issues that have to be addressed, the first of which is whether they were working on the same particular matter with the same particular parties, and what their current—the next job is going to be, and if there's going to be representation.

If those two things aren't met, there's nothing to waive. Or if any of those are not met, there's nothing to waive.

The issue that—the only time where there absolutely would be a requirement for some sort of a waiver would be for a senior person who is in the senior executive service, 5 or higher.

Under—I think it's section [i] or [j]—[j], there is an exception which allows the administrator in conjunction with the Office of Government and Ethics, to certify that a specific person's requirement—qualifications, specifically with respect to scientific or technological capability are so required it is in the national interest for that to be waived.

That must be done in conjunction with the Office of Government Ethics. It must be for those reasons. Then there must be publication of that in the Federal Register.

NASA has never, to my knowledge, issued one of those waivers. I'm not completely sure how difficult that would be. But that is the only waiver procedure that I'm aware of, other than, there is one

that allows the President personally, but non-delegable, to waive it for up to 25 people. But I don't think we're likely to get those.

Mr. SENSENBRENNER. Do you think additional legislation is necessary amending the Ethics in Government Act to facilitate the transfer of NASA employees to the United Space Alliance to operate the shuttle?

Mr. FRANKLE. We are—I am—in addition to general counsel, I am also the designated agency ethics official.

I am at the moment looking at all the statements of work for the contracts that are being transitioned to the Alliance, and the changes in the way that the work is being done.

I believe that, for the working level people, it will be my opinion that they will not have a problem unless they were specifically involved in negotiating with the Alliance, or picking—or doing some of the things that led to the Alliance as being fixed.

The problem has come up——

Mr. SENSENBRENNER. Do you know if there are any people in NASA who fit into that category?

Mr. FRANKLE. Oh, I know clearly there are people who helped set up the procedure that led to the selection of the Alliance, and worked the issues going to their administrator's determination on sole source.

Now, whether any of those wish to go work for the Alliance, and whether the Alliance wishes to have them go work for it, is something that I do not know, sir.

Mr. SENSENBRENNER. Would the people who would fall into that niche—would they be eligible for presidential waiver under the other section of the Ethics in Government Act?

Mr. FRANKLE. Since I've never seen or even heard of anyone exercising one of those presidential waivers, I don't know why not. I also don't know how we would initiate that.

Mr. SENSENBRENNER. It is obvious to me that, for the single prime contract to work—and we all want it to work—there is going to have to be some kind of a way to get people in NASA with experience over to the United Space Alliance, because if the United Space Alliance has to hire everybody from scratch, then we have ethics-d our way into one heck of a predicament that is going to jeopardize the safety of the shuttle, as well as cost the taxpayers more money.

Mr. FRANKLE. Yes, sir. I do know that there are people who have expressed concern. For instance, I can issue an opinion as designated agency ethics official that says that, based on the facts that I've been told about a given individual, that I feel that they do not have a post-employment problem, assuming that's true.

That opinion would protect them from any administrative action, but explicitly does not bar someone in the Department of Justice from deciding that a criminal violation had occurred, and going after them to prosecute them.

Now, in reality, the probability of something like that happening, assuming there wasn't some fraud in the inducement, is so slim in my opinion——

Mr. SENSENBRENNER. Do you want to bet?

Mr. FRANKLE. It's not much.

Mr. SENSENBRENNER. Talk to Congressman Rose of North Carolina, for starters, because he got an opinion from the Ethics Committee, which is our designated ethics officer, that certain conduct was not illegal and did not violate the rules of the House.

And the Justice Department did not criminally prosecute him, but filed a civil suit against him, which he ended up having to settle out for, I think about $30,000.

Mr. FRANKLE. Yes, sir. Whether it's slim or not, it is clear that there is a perception by some people that this is a problem. And it is to counter that perception, more than any specifically hard legal problem, that this provision——

Mr. SENSENBRENNER. My time has expired. But, you know, if I were contemplating making the shift before deciding to do that, I would want to be darn sure that I would not either be prosecuted criminally, or sued civilly by the Justice Department, because that's the world's biggest law firm. If they get a bur in their saddle, they can literally bankrupt somebody they go after, even though they're wrong.

The gentleman from Texas, Mr. Hall.

Mr. HALL. Thank you, Mr. Chairman.

I guess I'd ask Lt. Gen. Armstrong, through Lawyer Frankle, how many NASA employees would be prohibited from working for the U.S. Alliance under existing law, under the law we're operating under now? Do you have a number on that, or a figure, or a guess?

Mr. FRANKLE. No, sir, I really don't.

Mr. HALL. Ball park?

Mr. FRANKLE. The number who could be worried about it is fairly substantial. Since we had to combine 28 separate statements of work into a single statement of work, there were a lot of people who were involved in doing that.

One of the activities——

Mr. HALL. That's without provisions of this bill, or this draft?

Mr. FRANKLE. Yes, sir, yes. One of the provisions of being a person substantially involved in a particular matter like a contract is participation in drawing up the statement of work.

Personally, I think that's an over-broad interpretation. But it is one that worries people. So there's a lot of people in that situation.

I think we can interpret our way through some of that. But in any event—I honestly can't tell you how many I believe will in the long run——

Mr. HALL. The provisions of this bill would lessen those who were in distress right now?

Mr. FRANKLE. Oh, yes, it would lessen it down.

Mr. HALL. For those, the number that it's lessened to, would they all be eligible to work for the contractor under the proposed provision of this bill, those that you would feel were covered by the bill, or excluded?

Mr. FRANKLE. There still would be a small number of people under the provision that's in the bill that would not be permitted to work for them, and then represent the contractor back to NASA. They would be the ones who were substantially involved in negotiating the contract, this specific contract, with the Alliance on behalf of NASA.

But we would keep that to a very small number. I mean, you would cut the potential exposure from many thousands down to a couple handsful, I would think.

Mr. HALL. You're going to have some critical skills requirements, though. I guess they would have to come from the NASA employees.

Do you have a figure on how many such employees would be needed by United Space Alliance to meet the critical skills requirement?

Mr. FRANKLE. No, sir. You'd have to ask the Alliance about that. I don't know what the requirements are.

Mr. HALL. How about asking the general—does he know?

Mr. ARMSTRONG. I think the answer, Mr. Hall, is that they haven't really finalized exactly what they're going to need in terms of augmenting it. We haven't seen much action from the personnel side yet. But I think that's yet to be determined.

Mr. HALL. General, for those with the critical skills, are most of them prohibited today from joining USA by existing law?

Mr. ARMSTRONG. I think that's the same question that Mr. Frankle was talking about there, in terms of, what activity they had in combining the statements of work and so forth.

I would imagine there are a number of those employees, civil servants, there at KSC that were involved in some way combining the statements of work. I have no idea what the number is, but I would imagine there were a number of them.

Mr. HALL. Would there be any waiting time? You know, we have a lot of members of Congress, if their districts decide that they're not needed up here anymore, then they have to wait a length—a particular length of time before they can talk to any of us on the Hill here.

Mr. FRANKLE. Without the legislation, Mr. Hall, it would depend on the organizational position and the duties of the individual. It has to be done on a case-by-case basis.

Mr. HALL. Would there be any impact on shuttle safety if you had an exodus of a good many of these that had the critical shuttle program skills?

Mr. FRANKLE. It would depend on who——

Mr. HALL. You know, people that the government now needs.

Mr. FRANKLE. The government, in the space flight operations contract, is trying to step back from the day to day operations of the contract and rely on a different approach to maintaining safety.

Mr. HALL. But your war game——

Mr. FRANKLE. Obviously, if everybody left in one whole area, there could be a problem. I would believe that——

Mr. HALL. It may be an improvement; you can't tell.

[Laughter.]

Mr. HALL. I guess what I'm asking you is, are you studying the impact of that on NASA at this time?

Mr. FRANKLE. I believe the Office of Space Flight is studying the impact of that, sir, yes.

Mr. HALL. And do you know of any results of their studies?

Mr. FRANKLE. No, sir, I do not.

Mr. HALL. General, do you?

Mr. ARMSTRONG. No, sir.

Mr. HALL. All right. I thank you. I thank the Chair.

Mr. SENSENBRENNER. The gentleman's time has expired.

The gentleman from Florida, Mr. Weldon.

Mr. WELDON. I thank the gentleman, and I'd like to address my questions to Mr. Johns, initially.

As I understand it, the White House is opposed to the language in Section 103, which I think most of the questions that have been directed have been dealing with.

Could you explain to me why the White House is opposed to that?

Mr. JOHNS. I would actually prefer to elaborate for the record. But the principle reason is one of precedence. If one were to do this across the whole government, if you had a large segment of the government workforce whose, for example, retirement benefits were being paid while they worked in the private sector, it would be a real departure from what has been historically the case.

I'm speaking of the broad exception, and the opposition on the part of OMB.

But I'd be happy to elaborate for the record, if that would be helpful.

Mr. WELDON. Well, if you'd like to submit some further testimony on this later in written form, I'd be happy to review that.

My concern in this area is, we have a very unique situation here. We're not—we're talking about launching the space shuttle with human beings on board.

Mr. JOHNS. Sure.

Mr. WELDON. We did have a failure in 1987. It was a great tragedy. I think everybody involved in the program that I have met is very, very committed to keeping it flying very, very safely, as well as all the members of this committee, both Democrat and Republican.

We want to make sure that we have the right skill mix, and we don't want to lose very, very talented and knowledgeable people because of regulations that perhaps in their creation were intended to serve a good purpose and protect the taxpayers. This particular situation could be ultimately in the end costing the taxpayers.

So I was——

Mr. JOHNS. If I could elaborate, there's no one more concerned about the safety and successful operation of the shuttle than the President, the Vice President, and the White House.

That's why, in fact, we asked that a review of the safety, with all of the changes that are taking place, be done, and report back to the White House to give us the assurance that it's being done with that degree of safety.

Certainly, if they were to request, or if NASA with specifics with regard to areas that affect the safety of the shuttle, it isn't conceivable to me that we wouldn't make a decision in support of the safety of the shuttle operations.

Mr. WELDON. I have another somewhat related question. It's about the expanded buy-out.

As you are probably well aware, NASA is a somewhat unique agency within the government, in that it has a very, very large proportion of scientists working in the agency, for obvious reasons.

Many of them draw salaries commensurate with their training and their background and their skills.

Specifically, I was very concerned that a $25,000 buy-out for a federal employee who's making $80,000 a year is not a significant incentive. It has been proposed that the buy-out be increased. Some people have mentioned the figure of $50,000.

Also, some discussion about making retirement-eligible individuals available to receive that.

Could you comment on that, or the White House's position on those issues, please?

Mr. JOHNS. With regard to the buy-out itself, again precedence is a concern there. We have 22 agencies and departments that have scientific personnel who are engaged. Yet if you were to set aside a buy-out provision that only affected those with technical backgrounds, it would be very hard to make that distinction, to have a $50,000 buy-out.

The federal government is 200,000 people or more smaller than it was just three years ago. The precedence of the buy-outs in this budget era would be very difficult to accommodate.

With regard to the other aspect, you're not in my area of primary expertise. I would be happy to submit for the record on the other portion of your question.

Mr. SENSENBRENNER. Mr. Johns, I can't believe what I've just heard from you.

Going to a single prime contract was an initiative of the Administration, which this Congress supported. Going to a sole source single prime contract was a decision of the Administration, which this Congress supported, after getting relevant testimony from NASA Administrator Goldin.

Now, what the Administration is saying is that we don't want the sole source, single prime contract for the operation of the shuttle to work, because the Administration is opposed to any statutory change relative to post-employment restrictions.

So if we're going to buy out a whole lot of NASA employees' contracts, people with experience, people who have served this government and this country very well, and tell them that they can't work for the United Space Alliance, that they're going to have to—the USA is going to have to hire people and train them—and I would submit it would be on-the-job training in a very, very risky business—because the Administration has its head in the sand on post-employment restrictions, and can't hire people with experience and with expertise, then we're putting lives on the line, Mr. Johns.

Perhaps these decisions are being made in the White House counsel's office. I'd urge you to go back to the White House and to get us an answer right away, because if the White House doesn't answer this question right away, then people who are thinking of making a job change, people who are thinking of accepting a buy-out are not going to make that decision because they don't know whether there are jobs available to take their expertise.

Now, you know, I wouldn't make this statement if it weren't for the fact that we all made a decision to go down the route of a single prime contract.

But I'd point out to you, Mr. Johns, that Mr. Goldin comes up here and says repeatedly when we ask him tough questions, "I work for the President of the United States."

I assume that when he went to the single prime contract and the sole source contract, he was working for the President of the United States, because he told us so.

Please tell the President of the United States that we have a problem in transitioning people. And unless we address that problem, the savings that will be accomplished, the efficiencies that will be accomplished by going to a single prime contract, are all going to be placed in jeopardy because the United Space Alliance won't be able to get the expertise they need to make that contract work.

Are there any further questions?

If not, thank you——

The gentleman from Florida.

Mr. WELDON. I just have a few extra questions, if I may. I'll direct these to Lt. Gen. Armstrong.

With the buy-out that NASA is proposing now, which I believe you have in the Senate version of the bill, would those monies come out of existing funds, or are you asking for additional funds in that?

Mr. ARMSTRONG. No, sir. We plan to exercise the buy-out using the funds that would be made available through our normal R&PM funds, the one-year payroll funds. If we can do that early in the year, we have sufficient funds to do that, because we don't intend to hire behind those.

Mr. WELDON. Could you just describe a little bit for me what would happen to the personnel mix if you are not able to succeed with your buy-out and reach the number of FTEs you desire, and you do have to go to a RIF?

Mr. ARMSTRONG. As I said in my opening statement, the difference between where we are today and where we've already plotted to be in the year 2000 is about 3,500. At best we're probably going to do through normal attrition—do about 2,000. So it's a 1,500 problem.

Now, as you go through normal attrition, you also get some skill mix problems because you can't predict who's going to be leaving and where they're going to be.

So what we would do in the buy-out is, we would target that 3,500 and offer them the buy-out. Now, when you do that, you typically would get the people who are close to retirement age, the older people.

If you turn it around and don't do that, but target the same group and do a RIF, then because of the seniority impacts, the younger people, the ones who came on later were the ones that are going to be impacted.

So you're going to affect the same skill or offices. You're just going to get different people.

Mr. WELDON. You're going to get younger people? Okay. Does that have implications down the road, for NASA down the road, 10 years, five years?

Mr. ARMSTRONG. Well, for the last several years we've been very limited in our hiring. Back as late as 1992, we were hiring one for each loss. But since they redesigned the space station, we've had

a virtual hiring freeze most of the time on. So we haven't brought on—there's a period of time we haven't brought on many fresh-outs, as we call them.

If we were to do a RIF, then of course what we would be doing is probably affecting some of those who came on in the late '80s, those who are now seasoned performers, but young.

Mr. WELDON. I thank the Chairman.

Mr. HALL. Mr. Chairman, I just have one other.

Mr. SENSENBRENNER. The gentleman from Texas.

Mr. HALL. I don't know if you've had a chance to really digest the draft Space Commercial Promotion Act of '96, but I understand it was handed to you sometime before you've been here to testify.

If you have, and you've read parts of it, how workable is the proposed provision that would authorize states to launch sites in place of the Department of Transportation, in which a case could be made, because of the lagging behind sometimes of the Department of Transportation—what are your thoughts on that?

Mr. JOHNS. We have a working group that is working on precisely those issues at this time. And we expect to report this summer on it. So it would be premature to elaborate very much on it.

But a problem of the states issuing absent the portion of the bill where the federal government would have to agree to create problems with regard to air traffic management, safety, a whole range of problems. So how in fact it was implemented so that the states were assured that they were conforming with federal problems, whether that's public safety or environment or other considerations is an important aspect.

But I would hope the committee would wait until we have our recommendations from our working group that we're trying to work out among the agencies.

There is a special sensitivity to the need of the states to be able to have a determination, and some spaceports that are anxious to get going in the very near future. I can assure you we are pushing that working group hard in order to get those answers as quickly as possible, in order not to prevent the continued effort on the part of the states to get these spaceports rolling.

Mr. HALL. I already know your answer, but I'll ask a question anyway.

Does the Administration have a position on the overall bill, General, Mr. Johns?

Mr. JOHNS. Well, we of course would like to work with the committee to make the bill effective, as effective as possible for what it is you want to accomplish.

We have a wide variety of common goals and policies in place that are codified by the bill, and we will look forward to working with the committee to finalize it.

Mr. HALL. Line up the usual suspects. Thank you.

I yield back.

Mr. SENSENBRENNER. Thank you very much for appearing today. Again, the record will be held open for at least seven business days for additional written information.

The first panel is excused, and stepping to the plate will be panel two, which includes Dr. Brian Dailey, Vice President for Business Development for Space Age and Strategic Missiles Sector for the

Lockheed-Martin Corporation; Dr. Scott Pace, a Policy Analyst for the Rand Corporation; and Dr. Mark Brender, a National Radio and Television News Director's Association, who is an ABC News Producer.

I assume that that means that when we make very profound statements and it's snipped out, and that comment gets put on the floor of the editor's room, you are to blame.

First up will be Dr. Dailey.

Without objection, all of your written statements will appear in the record. If each of the witnesses could limit their comments to five minutes, I'm sure we would all appreciate it.

Dr. Dailey.

STATEMENT OF BRIAN DAILEY, VICE PRESIDENT, BUSINESS DEVELOPMENT FOR SPACE & STRATEGIC MISSILES SECTOR, LOCKHEED-MARTIN CORPORATION

Mr. DAILEY. Thank you, Mr. Chairman.

And thank you, Congressman Hall, for the invitation to speak before this committee today.

As usual, it's a great pleasure to be in front of this committee. Your support in commercial space activities is well known. Of course, we welcome that support. Indeed we welcome and endorse the overall objectives in the proposed legislation in which we're being asked to comment on today.

The bill is very important for us in the sense of, it helps facilitate many of the commercial ventures we're looking at. Specifically we want to endorse the provisions of 103, 104, and in that context, we'd like to submit for the record a letter that we have had the USA Alliance send to Chairman Walker.

Without objection, we'd like to submit that for the record.

[The following information was received for the record:]

1150 Gemini
Houston, Texas 77058-2708

July 30, 1998

Honorable Robert S. Walker
Chairman
House Committee on Science
2320 Rayburn House Office Building
Washington, DC 20515-6301

Dear Mr. Chairman:

Thank you for the opportunity to review and comment on provisions included in the Space Commercialization Promotion Act of 1998 as they relate to the activities of the United Space Alliance.

As the single prime contractor for the Space Shuttle, United Space Alliance (USA) recommends the approval of Section 103, Exception to Employment Restrictions and Section 104, Benefits for Certain Employees Transferring from NASA. The cognizant section of Title 18, United States Codes and the Federal Procurement Policy Act currently prevents USA from hiring critically skilled NASA employees. Approval of the drafted exceptions to the existing language would give USA the ability to attract NASA personnel who would directly and significantly contribute to the assurance of flight safety and the success of the Shuttle program. Procurement integrity will be ensured by continuing the exception of hiring NASA employees directly involved in selection and award of the organization in which the employee seeks employment.

The ability to attract these employees would also be significantly enhanced by the approval of Section 104, Benefits for Certain Employees Transferring from NASA. In many cases, NASA employees are deterred from joining USA because of loss of service-related benefits that have been accrued during their tenure with NASA. Portability of these Retirement, Disability, Thrift Plan and Health benefits would contribute to the ability of the single prime to attract these critically skilled NASA employees. The single prime contractor would pay the appropriate benefits plan costs and administrative fee as determined by the Office of Personnel Management.

Approval of Sections 103 and 104 is extremely important to the overall success of the Shuttle program and will significantly contribute to safe operation of that program.

Again, thank you for your consideration and action on this important issue. We have taken the liberty of attaching suggested changes to the bill's language which we feel will clarify its intent.

Sincerely,

Kent Black
Chief Executive Officer
United Space Alliance

Jim Adamson
Chief Operating Officer
United Space Alliance

Space Commercialization Promotion Act of 1996

Proposed Bill Language Changes

Delete phrase "served in a position of authority" from Section 103, paragraph (b) Exceptions. Change wording to following:

"Subsection (a) shall not apply to an employee who, while employed with the National Aeronautics and Space Administration, was actively and significantly involved in the selection of the organization for an award with which the employee seeks employment."

Mr. SENSENBRENNER. Without objection.

Mr. DAILEY. In that letter, I think you'll see the elaboration on our support for the various sections encompassed in that bill.

What I'd like to do, though, is focus most of the attention today on another part of the bill that is very important to us as an aerospace company, and important for our future commercial endeavors. That has to do with the area of commercial remote sensing.

Commercial remote sensing is something that this committee is very familiar with in the context of its overall support since the 1984 Landsat Act to the 1992 Landsat follow-on act, which was very critical in allowing us to achieve a license to operate a commercial remote sensing system for commercial applications.

It was the end of the Cold War that of course helped facilitate that activity. Of course, from a technology side, we believe very strongly that it's best for U.S. industry to be a leader in the area of remote sensing. So therefore, we support strongly the initiatives that are outlined in the bill.

We want to also indicate that we believe that we're not alone in this business. There are many countries—Russia, China, France—that are all in the business of remote sensing today, and believe that it's important for the U.S. to be the leader in that marketplace, because it's not a market of low revenues. It is a market that will expand greatly in the future.

It is estimated by Administrator Golden that countries are spending approximately $15 billion today, of which half of that money is being spent in the United States, but the other half is being spent by foreign countries. Therefore, there's a strong interest by many countries to develop the kind of remote sensing capabilities which we have a leadership role in today, and therefore we believe we need to continue it in the future.

It is for that reason, by the way, through the policy that came out through the Administration, Presidential Decision Directive 23, which allowed us along with the Land Remote Sensing Policy Act of 1992, the confidence to go ahead and invest the $400 million necessary for us to initiate our commercial venture in that area.

We believe it is important, if not imperative, for the Congress and for the Administration to continue to support us in that context in every letter of the policy, and in the Act, and subsequently in the revisions you have made to the bill in this particular piece of legislation, because without that, we can't have the confidence to get the other foreign investment necessary for us to have a successful business.

So we endorse all the initiatives that are going on here today within the bill, thank you for your past support, and thank you for your future support, and look forward to working with the committee, both in a very strong bipartisan way and continuing our common interests in these areas.

Thank you.

[The prepared statement of Mr. Dailey follows:]

HOUSE COMMITTEE ON SCIENCE
SUBCOMMITTEE ON
SPACE AND AERONAUTICS

SPACE COMMERCIALIZATION PROMOTION ACT OF 1996
HEARING
(July 31, 1996)

Statement of Brian D. Dailey
Vice President, Business Development
Space and Strategic Missiles Sector
Lockheed Martin Corporation

Introduction

On behalf of Lockheed Martin, I would like to thank you, Chairman Sensenbrenner, for the invitation to appear before the Subcommittee on Space and Aeronautics today and address the challenges facing the US in advancing our important commercial space business objectives.

I would like to begin by noting the critical role that this Subcommittee and the full Committee have played in establishing the legal, regulatory, and policy framework that has enabled the emergence and growth of a US commercial launch industry. However, for a long time, many in industry and government have tried to stimulate expansion of commercial space applications, that is, business activity that goes beyond space-based communications. Thus, the leadership assumed by you more recently in bringing forth an important new space-based information industry - commercial remote sensing - represents a significant achievement.

Space Commercialization Promotion Act of 1996

The Space Commercialization Promotion Act of 1996 contains a wide variety of measures intended to mitigate, if not eliminate, the impact of certain perceived impediments to doing a broader range of business activity in space. Lockheed Martin supports overall the legislative objectives of this bill. We commend Chairman Walker and Chairman Sensenbrenner for their persistence and dedication over the years to advancing the cause of commercial space in the Congress, and to Chairman Sensenbrenner, and the members of the Subcommittee, for convening this hearing. The opportunity that it presents for industry to voice our concerns, is just the most recent milestone in the Space Subcommittee's long history of commitment and leadership in the development of a robust and competitive commercial space sector.

We also would like to register our appreciation and support for those specific provisions of the bill that facilitate the ability of our United Space Alliance venture with Rockwell to recruit and secure the critical skill base represented by NASA employees and former employees that is necessary to carry out USA's prime contract for Space Shuttle operations. Let me also note the proposed amendments in the bill to the Land Remote Sensing Policy Act of 1992, many of which we have long supported as a way of making the legal and policy environment more conducive to robust commercial activity. A more detailed statement on the bill will be submitted after conclusion of the hearing.

Commercial Remote Sensing

I would like to focus my oral remarks today on issues related to this particularly important part of the Subcommittee's current legislative agenda: commercial remote sensing.

Like so many other important national accomplishments in space, the groundwork for development of a strong US commercial imaging industry was the product of broad bipartisan cooperation through successive Administrations and Congresses. Recognizing the importance of imagery products to scientists, researchers, map makers, land developers, city planners, oil and mining companies, emergency rescue teams, and many others, the Congress in 1984 passed the Land Remote Sensing Commercialization Act as a way to encourage the government to provide such information to meet market and scientific demand.

In 1992, the Congress - with this Subcommittee and the full Committee leading the way - responded to the dramatic changes in the geopolitical situation and repealed the 1984 law. In its place, Congress adopted the Land Remote Sensing Policy Act of 1992 which revised and streamlined licensing procedures. Also, it included a new provision concerning non-discriminatory access to data that enhanced the commercial value of such data. At the same time, the end of the Cold War encouraged a new view on access to higher-resolution imagery. These key statutory and policy changes paved the way for issuance of the first commercial remote sensing license authorizing a company to provide 3-meter imagery for civil and commercial use.

But, Mr. Chairman, we are not alone in pursuing commercial market opportunities for our space-based imaging capability: Russia, France, Israel, China, and India, all represent actual or probable sources for such imagery in the near-term. Thus, the issue for US industry and policy-makers alike has been - and, indeed, continues to be - whether US companies will be able to use their technological prowess and commercial business know-how to establish themselves as the leading suppliers in the world market: a strong market presence that would serve to protect not only national technological and economic interests, but the national security as well.

The Clinton Administration agreed with this analysis and - with the strong leadership of this Committee, as well as bipartisan support from other key Committees on both sides of the Hill - moved to formulate an interagency position led by commerce, defense, and intelligence organizations, that was eventually memorialized in March 1994 as Presidential Decision Directive 23 (PDD-23).

PDD-23

PDD-23, the US policy on foreign access to remote sensing space capabilities, is viewed by us and others in industry as a major milestone in the commercialization of space-based imaging. The policy was the result of a protracted but ultimately successful effort to strike a balance between industry's need for clear, predictable regulation and the government's need for an effective mechanism to address major national security or foreign policy contingencies. This balance is reflected throughout PDD-23, but particularly with respect to the procedure whereby the Secretary of Commerce may require licensees to limit collection or distribution of data during periods when critical US national security or foreign policy interests are at stake, as determined by Cabinet-level decision makers. Moreover, any such limits are to be carefully defined; that is, they should entail only those constraints required to address a discrete situation in order to avoid placing an unnecessary burden on commercial business operations or on the data needs of customers.

This approach is firmly rooted in the current statute and avoids region-by-region *a priori* constraints on commercial operations. If that approach had been adopted, Mr. Chairman, the industry response would have been clear and unambiguous: we simply cannot operate any global communications or information system on a commercial basis in the face of such an approach to regulation. Thus, while the substantive provisions of the policy that support US industrial competitiveness in this area are clearly important to us, it is fair to say that without the procedure set forth in PDD-23 for addressing certain emergency situations, which is based firmly in current statutory authority, we could and would not have made the substantial corporate financial commitment required to implement a global commercial remote sensing system. I am certain that the same is true of others in US industry.

Space Imaging

Lockheed Martin has a great deal at stake in appropriate implementation of the statute and policy. In April 1994, the Department of Commerce licensed Lockheed Martin's operation of Space Imaging, a commercial remote sensing satellite system providing one-meter panchromatic and four-meter multispectral imagery to government and commercial customers. The Space Imaging system will consist of state-of-the-art space and ground capabilities, including spacecraft, a ground system, launch services and system integration. In addition to Lockheed Martin, the principal investors in Space Imaging are E-Systems, Inc. (a Raytheon subsidiary) and Mitsubishi Corporation. Space Imaging is pursuing other equity investors and regional affiliates throughout the world.

The significant economic benefits accruing to the US generally, and particularly to certain states during these difficult times of defense down-sizing, are significant. The Space Imaging satellites are being built at our Sunnyvale, California facilities, and will be launched from California's Vandenberg Air Force Base. Space Imaging is headquartered in Thornton, Colorado; and the Lockheed Martin Launch Vehicles that will orbit the satellites will be built in our Astronautics production facilities in Denver. Space Imaging plans to install a ground station in Fairbanks, Alaska, and is considering other locations for support facilities.

Conclusion

Mr. Chairman, US industry is uniquely poised to be the global market leader in this important new commercial space business. Working with the Congress and the Executive Branch, the process by which this business can be responsibly pursued, we believe, has already been achieved. Foreign countries that protest US entry in this market do so most often out of self- interest. Virtually all who do protest are building their own systems, many of which are being promoted commercially, if not today, then tomorrow. If US industry is not allowed to be first-to-market, then it is unlikely it can or will justify the investment in the future after foreign governments have subsidized and achieved dominance in the commercial market. Thus, Lockheed Martin believes that any ill-considered deviation from current law, or the principles and procedures of PDD-23, would undermine not only the financial commitment US industry has made to commercial imaging, but also the important economic and national security interests advanced through a strong US presence in the world market for commercial sensing data products and services.

Chairman Sensenbrenner, the US is already the world leader in key commercial space sectors, with all that implies for our technology base and high-quality jobs. We now have the potential for leadership in other important emerging sectors. Lockheed Martin urges this Subcommittee and the full Committee to build upon its laudable record of past achievements in laying a solid foundation for healthy and responsible US commercial space industries.

35-039 O - 96 - 3

Mr. SENSENBRENNER. For the record, you were able to say it with one minute and 37 seconds left to go.

Dr. Pace.

STATEMENT OF SCOTT PACE, POLICY ANALYST, RAND CORPORATION

Mr. PACE. Nothing like having a bench mark metric to work against.

Thank you. Mr. Chairman and Mr. Hall, thank you very much for inviting me to be here today. It's a pleasure, as Dr. Dailey said, to be before a committee that's had such an influential role in commercial space policy and commercial industrialization.

One of the things that I think is very striking about commercial space is that there's a basic fact that as the federal budget is flat and declining, both for the military, I think, as well as for the NASA, that the salient characteristic of space today is that the portion devoted to commercial space activity is continuing to grow.

As that compound growth grows over time, the character of space becomes more and more commercially driven, and therefore the activities of this committee in terms of policy and regulatory apparatus will have a bigger and bigger influence on the character of national space activities in general.

Now, one of the characteristics of the commercial space activities as it's going on today is that it's primarily driven by information—remote sensing, GPS, mobile communications.

This is not surprising when you consider the high cost of access to space, that sending things up and down is quite expensive. That's why the RLV program is so important. But if you look at what's happening today and where the commercial drivers are, they're in information. So a lot of the problems that you hear in commercial space have analogs in other areas of the information industry—intellectual property rights, stable investment environment, and so on.

I want to talk about three areas of the bill where I may have some expertise. One of course is GPS. The other is remote sensing. The third is excess ballistic missiles.

The area of GPS is a very exciting area. This came to my attention when I was at the Commerce Department when I was shown some statistics on the rapidly growing rate of GPS equipment sales.

Although it was small at the time, the rate was certainly impressive. In the year since that time, what we're currently looking at now is about a $2 billion market, as of last year. We're looking at growth to somewhere between an $8 and $11 billion market, depending on what analyst you believe, in the next four to five years.

Now, the President's policy on GPS, which came out on March 29th, and I think was a very helpful statement, provided the kind of policy framework and clarity that the industry had been arguing for for a long time.

But I think it's important to look forward to the next step, which is the creation of really a supportive international framework for the use of GPS. I'm pleased to hear that the State Department is currently preparing to lead an interagency team in GPS in discussions with Japan, to be later followed by other countries.

Japan is important because of its technical leadership in GPS after the United States, and also because, frankly, there are security issues in the Far East where GPS may play a role. It's important, I think, for the United States to be speaking with its key ally in the Far East about the use of this dual use technology.

It's my understanding that these discussions will be encouraging commercial use of GPS, talk about potential trade barriers, as well as address some of the security issues.

In this context, I think it's important, as the bill does, to point out that the United States speak with a single voice that integrates both these security and economic interests that the United States has in wider international acceptance of GPS.

With regard to commercial remote sensing, this committee obviously played a leadership role in the 1992 Land Remote Sensing Act. But with the perspective of the last four years, there are some things that I think need some improvement.

The National Oceanic and Atmospheric Administration has run what is generally considered a pretty good regulatory process. But there are some obvious problems.

One of those problems has been in understanding what's necessary for the licensees to have. There's been a back and forth process of multiple rounds of questions and answers. So something on the order of saying, what all information is going to be required, up front in a clear way, I think would help streamline that process.

Secondly, the primary cause of delays in processing license applications seems to be the interagency process, particularly with respect to foreign policy concerns. There have been a variety of protracted debates over the role of foreign investment in commercial remote sensing systems.

I think this is a problem for the investment community, which needs to have a more stable idea about what kind of foreign investments are going to be allowable and acceptable, and what kinds aren't.

So the interagency process, where people of goodwill are trying to do the right thing, I think inadvertently led to a situation which has introduced some instability into the license process, to the detriment of U.S. firms.

Related to commercial remote sensing is of course the important issue of Mission to Planet Earth. NASA recently held a workshop out at the Goddard Space Flight Center, talking about its commercial strategy for Mission to Planet Earth, and inviting industry input.

I think it's no surprise that it's imperative the NASA be able to leverage every dollar it possibly can, and utilize as many commercial resources as it possibly can to accomplish Mission to Planet Earth objectives.

One of the key things missing, however, at this point really is a common basis for discussion between industry and NASA as to how they're going to be going about making the various procurement decisions and acquisition decisions.

A common dialogue was created—I'll wrap up—in the case, I think, of the RLV program, where people started to really understand each other when they talked about business decisions and government procurement decisions.

Some similar building of common ground is going to be necessary between government and industry if they're to be successful in the future.

Finally, I would just point out that I thought that the sections dealing with excess ballistic missiles certainly reflect current national policy.

Although I am skeptical of the effectiveness of converting ICBMs to space launch vehicles, I understand certain educational institutions would like to take a crack at it. And the kinds of conditions that are placed in the legislation, I think would have a good chance of making sure that they really did enable an educational use, and did not compete unfairly with the private sector.

With that, my apologies for running over.

[The prepared statement of Mr. Pace follows:]

CONGRESSIONAL TESTIMONY

RAND

Promoting Commercial Space Activity

Scott Pace

CT-139

July 1996

Critical Technologies Institute

Promoting Commercial Space Activity

Statement of Scott Pace, Ph.D.
The RAND Corporation

before the Subcommittee on Space and Aeronautics
U.S. House of Representatives

July 24, 1996

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to appear before you today. This committee has played and continues to play an important role in creating effective incentives for the establishment of robust commercial space industries that benefit all Americans. Before I begin, I should make it clear that the views and conclusions expressed are my own and should not be interpreted as representing those of RAND or any of the agencies or others sponsoring its research.

The commercial space industry is a very diverse one which encompasses activities such as satellite communications, remote sensing, satellite-based navigation, and space transportation. The U.S. Department of Commerce estimates that commercial space activities generated almost $7.5 billion in revenues last year and is experiencing steady growth. This growth is particularly important in light of the continuing fiscal pressure on government space activities, both military and civilian. Over time, the character of U.S. space activities is changing, and commercial forces are increasingly important. Thus it is appropriate and timely for this committee to look to the future and how it can best promote the commercial activities that will constitute a greater proportion of U.S. space capabilities.

The most rapidly growing areas of commercial space, like so many other areas of the U.S. economy, are those driven by information industries. We are familiar with the exciting potential of mobile satellite systems to provide ubiquitous global services. Global Positioning System (GPS) equipment is appearing in luxury cars and in farm equipment. Commercial remote sensing satellites are now under construction and the first launch, other than Landsat, will occur later this year. The importance of information-driven industries to commercial space is easy to understand since the costs of computing and telecommunications continue to drop and the demand for more and better information of all sorts is growing.

In addition, since information doesn't weigh anything, industries providing communications and data have been willing to bear the high costs of access to space. Costs of several thousands of dollars per pound are clearly prohibitive for other types of economic activities such as space manufacturing, power generation, and even space tourism -- a subject dear

to many space visionaries. These costs are also an increasing burden on the U.S. government, which leads the world in the use of space for civil, scientific, and military purposes. Thus, the recent announcement by Vice President Gore of the selection of a contractor for the X-33 experimental, reusable space launcher is especially important. This experimental effort could lead to a new era of lower cost access to space, creating new opportunities for both the public and private sectors.

Global Positioning System Policy

The signals transmitted by GPS enable precise navigation, position location, and timing applications. GPS was developed by the U.S. Department of Defense to improve long-range navigation for military forces. While public awareness of GPS increased dramatically as a result of the Persian Gulf War, commercial applications of GPS in areas such as land survey and telecommunications network management have been growing in prior years. GPS today is a dual-use technology which is having a profound impact on military, commercial, scientific and civil activities around the world.

Commercial revenues for Global Positioning System equipment currently amount to several billion dollars and industry analysts estimate that this market will grow to $8.5-11.0 billion over the next four years. Commercial applications in transportation and mobile computing are among the fastest growing areas, and military sales, while growing, are continuing to be a smaller and smaller proportion of the overall market. In recognition of the importance of GPS to U.S. national security, industry, and international users (e.g., in aviation and shipping), the Office of Science and Technology Policy asked RAND in 1994 to conduct a study of the major policy issues raised by growing use of GPS.[1] The major recommendations made in the final RAND report included the following:

- The United States should initiate discussions with Japan and Europe on regional security and economic issues associated with GPS; potentially leading to international agreements. These agreements should be mutually beneficial to all parties but not involve the exchange of funds. The United States should be prepared to commit itself to providing the levels of GPS service defined in the Federal Radionavigation Plan.

- The United States Government should ensure that the GPS is funded and maintained in a stable manner, free of direct user charges, to promote the adoption of GPS as a global standard for position location, navigation, and timing. The GPS space and control segments should remain under U.S. jurisdiction for the foreseeable future.

---

[1] *The Global Positioning System: Assessing National Policies*, Scott Pace, et al. The RAND Corporation, Washington, D.C., MR-614-OSTP, December 1995.

- The United States should work to minimize international barriers to commercial GPS-related goods and services such as proprietary standards and inadequate spectrum allocations.

On March 29, 1996, the Vice President announced the results of a broad Administration review of GPS policy in a Presidential Decision Directive. This directive defined overall U.S. policy toward GPS and defined roles for U.S. government agencies, such as the Department of Defense, State, and Transportation. The directive reiterated U.S. commitment to the maintenance of GPS and that civil signals would continue to be available free of direct user charges.

With the creation of a specific national policy for GPS, the next challenge is the shaping of a supportive international framework for the use of GPS. The State Department is currently preparing to lead an interagency team in GPS discussions with Japan, to be followed by later discussions with Europe and Russia. It is my understanding that these discussions will seek to encourage commercial uses of GPS, remove potential trade barriers, and address mutual security issues such as potential misuse or denial of GPS signals. As these discussions move forward, I believe that it is important that the United States speak with a single voice that integrates both security and economic interests in advancing wider international acceptance of GPS.

Commercial Remote Sensing System Licenses

It has been four years since the passage of the 1992 Land Remote Sensing Policy Act (P.L. 102-555) which streamlined the licensing process for commercial remote sensing systems. Changes in technology and markets helped create new opportunities for commercial remote sensing, but the importance of the regulatory changes should not be underestimated. Prior to the 1992, only two commercial licenses had been granted by the Department of Commerce, one of which was Landsat. Since 1992, there have been over a half-dozen, including EarthWatch (formed by the combination of Ball Aerospace and WorldView Imaging), Space Imaging, OrbView, Seastar, AstroVision, and Motorola.

With the experience of the past four years, it is instructive to look at how the licensing process is working. From discussions with industry and my own observations, the license process managed by the National Oceanic and Atmospheric Administration within the Department of Commerce is generally a good one. NOAA has been diligent in working with industry and seeking to resolve licensing questions. Improvements could be made, however, in the process of submitting license applications. In particular, it may be helpful for NOAA to publish a complete list of required information upfront rather than engaging in multiple rounds of questions and answers.

The primary cause of unexpected delays in processing operating licenses seems to stem from interagency reviews of potential foreign policy concerns. There have been protracted debates over the ability of current U.S. license holders to work with foreign firms without starting the entire license process over from scratch. In contrast, the 1992 Land Remote Sensing Act and the President's March 10, 1994 directive on remote sensing intends that there be a stable, predictable license process, not a new interagency debate with every international business arrangement. Prohibitions on dealings with certain countries, such as Cuba, Libya, Iran, and Iraq are already in place and new, redundant restrictions are not necessary to meet the policy goals set by the Administration and Congress.

The technology of remote sensing is not unique to the United States and the window of opportunity for U.S. industry in remote sensing will not last forever. U.S. firms have stepped up to the challenge of competing as a result of earlier government actions, but continuing attention is needed to ensure the regulatory process does not stall as a result of internal agency delays and debates. Seeking to hold back U.S. firms, or creating special rules and exceptions for how they can operate only creates niches for others and reduces the ability of the United States to exercise influence during true emergencies such as crises and war. Like GPS, remote sensing is a dual-use technology which carries both opportunities and challenges for U.S. interests.

Commercial Remote Sensing and Mission to Planet Earth

The current fiscal environment makes it imperative for NASA to be able to leverage commercial resources as much as possible. This is no more true than in the case of NASA's Mission to Planet Earth. With the emergence of a more capable commercial remote sensing industry as well as advances in aerial photogrametry, the government should have more options for meeting its needs at less cost. As in many other government activities, public-private partnerships can be mutually beneficial and the Mission to Planet Earth program should be encouraged to integrate commercial activities into the baseline program and not just add a "commercial program" as a veneer after major decisions are made.

NASA should consider how it might acquire space-based and airborne Earth remote sensing data and services from U.S. industry in support of Mission to Planet Earth science objectives. Such acquisitions should be cost-effective compared to the conduct of a government program and meeting scientific requirements should be the primary consideration. In some cases, commercial data will be usable as is. In other cases, science requirements will call for data that has no commercial counterpart. The most difficult questions will be those middle cases involving trade-offs where the most scientifically desirable data are very expensive.

NASA has relatively little experience with purchasing private sector data to meet scientific objectives. In may be reasonably anticipated that numerous procurement and legal issues will arise in the process, such as allocating intellectual property rights for data acquired with public and private resources. As a beginning step, NASA could provide more information to the private sector on baseline scientific requirements so that industry can propose creative solutions.

Excess Intercontinental Ballistic Missiles as Space Launchers

Some advocates of the use of converted ICBMs for space launch purposes see them as a low-cost alternative to commercial or government space launch systems. While this use can be tempting, it has been the policy position of past and current Administrations that the use of ICBMs for space launch should be subject to some exacting conditions. Commercial launch firms have stated that such vehicles should not be available for commercial use as they constitute unfair government competition with private industry. This is similar to the economic policy rationale for limitations on the use of space launchers from non-market economies (or economies in transition) such as Russia, China, and Ukraine.

Under certain conditions, the government may use converted ICBMs for space launches. First, the use of a converted ICBM must be consistent with the treaty obligations of the United States, especially in international arms control. Second, the converted ICBM must meet the mission requirements of the using agency. Third, the use of a converted ICBM must result in cost savings to the government. There are significant technical differences between an ICBM and a space launcher, although the technology can be indistinguishable. These differences result in conversion costs that can often make ICBM use economically unattractive.

Some educational institutions have asked that they be allowed to use excess ICBMs for student training and research, arguing that they cannot afford a commercial launch. Given the concern of commercial launch providers with unfair government competition, conditions could be imposed to ensure that using a converted ICBM truly enables an educational function and does not compete with industry. For example, a converted ICBM might be allowed for use by an institution of higher education if the payload itself will not compete with commercial firms, the cost of converting and using the missile is less than 50% of the price of a comparable commercial launch, and the educational institution pays for the cost of conversion and launch (rather than being subsidized).

Conclusions

Space commerce consists of several different industry sectors with their own market dynamics. I have not addressed those sectors, such as reentry vehicles, where I have not done research. In areas where I have worked, such as remote sensing, GPS, and space launch, it is my view that:

- The United States can most effectively promote GPS as a global standard in discussions with Japan and Europe if security and economic interests are closely integrated into a single approach.

- The regulatory process for remote sensing licenses can be made more efficient and predictable by clarifying information requirements and streamlining the interagency review process.

- Clear conditions on the use of converted ICBMs for space launchers can prevent competition with commercial launch firms while still enabling appropriate government and educational uses.

Assuming the X-33 program is a success and truly low-cost access to space becomes possible, I hope there will be future hearings to address new challenges such as space manufacturing, tourism, and property rights beyond earth. Until then, there is much that can be done to promote the reality of space commerce today.

Thank you very much and I would be happy to respond to any questions you might have.

Mr. SENSENBRENNER. Thank you, Dr. Pace. You used Mr. Dailey's minute and 37 seconds.

Mr. Brender.

STATEMENT OF MARK BRENDER, CHAIRMAN, RADIO-TELEVISION NEWS DIRECTORS ASSOCIATION REMOTE SENSING TASK FORCE

Mr. BRENDER. Good afternoon. I'm Mark Brender. I chair the Radio and Television News Directors Association's Remote Sensing Task Force, something we established back in 1986.

The media is very anxious to use imagery from high resolution imaging systems. And we hope that there will be unfettered access to such systems when they are placed in orbit beginning, some as early as this year and on into the end of the century.

At ABC News where I work, we've used imagery many times, most recently to look at areas of Bosnia, and also to look at that nuclear facility near Pyon Yang in North Korea. We were the first to put on the air that imagery of that particular facility.

Concerning the presidential policy and the policy that you want to codify into law, the policy says that the government can issue shutter control orders if they feel there's a threat to the national security, or a threat to foreign policy concerns.

The Radio and Television News Directors Association feels that that is a very high limbo bar. And the Supreme Court has said that it is only a direct and immediate threat to the national security of the United States.

We're concerned that in the present policy and the policy you want to codify, the wording is overly broad and very vague. Quite frankly, it is unconstitutional.

Just because we may use an outside source to gather news, that source should have the same First Amendment protections.

As far as the cabinet officer, the Secretary of Commerce, according to the policy, is the one that issues shutter control orders. We would hope that that would remain with the court. Tradition has had it that it is the courts that direct edicts to the news media for prior constraint, and not a member of the Executive Branch. This procedure is embedded in constitutional law.

All we need, and all we're asking, is that the government tell us in the law, and tell us in the policy, what standards—what standards you'll use when you're going to issue shutter control orders. And those standards are of course the phrase, from the Pentagon Papers case, 1971, that you'll issue shutter control orders when there is a direct, immediate threat to the national security of the United States, not foreign policy concern or international obligations, or some vague national security threat.

Media companies will have little or no interest in investing in companies doing remote sensing if the government can step in at almost any whim and issue some type of shutter control orders.

On the issue of shutter control in Israel—I'll just make a brief comment about that—the Administration probably is going to give Israel the de facto shutter control over U.S. commercial imaging systems. It's going to force U.S. imaging systems in the long run if other countries follow the same track, and if other countries want

the same courtesy extended to them as the U.S. plans to extend to Israel.

American orbiting satellites will have to orbit some patchwork quilt orbit around the earth. We believe that is also—such a policy is also unconstitutional, and also doesn't bolster investor confidence.

There are plenty of existing regulations that protect the national security, especially in a time of conflict—espionage laws, trade laws, UN sanctions. So for example, no U.S. company, if you have one meter resolution or better now would be able to sell imagery to Iraq because there are trade restrictions against Iraq.

The U.S. has for 40 years now supported the open skies philosophies established by the UN. That same philosophy should be now applied to commercial systems. And we shouldn't change it.

We're entering this age of transparency, and rightly so many governments are uncomfortable with it, an age of transparency at one meter resolution.

But the U.S. should stay the principle course on the precepts based on the Constitution. The U.S., of all nations, should not support limits on such information systems. We hope that one day such imaging systems at one meter will be as indispensable to us in the news gathering business as a hand-held camera and a printing press.

Thank you very much.

[The prepared statement of Mr. Brender follows:]

RTNDA
THE ASSOCIATION OF ELECTRONIC JOURNALISTS

1000 Connecticut Ave., NW, Suite 615
Washington, DC 20036-5302
Telephone (202) 659-6510
Facsimile (202) 223-4007
rtnda@rtnda.org
http://www.rtnda.org/rtnda/

Chairman
Loren Tobo
KMTV, Omaha, NE

President
Dave Bartlett

Chairman-Elect
Mike Cavender
WTSP-TV, St. Petersburg, FL

Treasurer
Lou Prato
Media Consultant
State College, PA

Past Chairman
Bill Yeager
Metro Networks News
Philadelphia

Directors
Jerry Bell
KOA Radio, Denver

Dave Busiek
KCCI-TV, Des Moines, IA

Jerry Dahmen
WSM-AM/FM, Nashville, TN

Janet Evans-Ferkin
KLBJ-AM, Austin, TX

Robert Garcia
CNN Radio, Atlanta

Bernard Gershon
ABC News, Radio, New York

Al Gibson
CKCO-TV, Kitchener, Ontario

Vickie Jenkins
KGIT Radio, San Francisco

Dave McGinn
CJOH-TV, Ottawa

Mark Millage
KELO-TV, Sioux Falls, SD

Lucy Riley
WSFA, Montgomery, AL

John Sears
KPTV, Portland, OR

Steve Smith
WWTV, Cadillac, MI

Marsha Taylor
WDBO-AM, Orlando, FL

Brian Traunweg
WRDW-TV, Augusta, GA

Scott Uecker
Network Indiana,
Indianapolis

Brian Whittemore
WBZ Radio, Boston

Gary Wordlaw
WJLA-TV, Washington

Will Wright
WMYD

TESTIMONY OF MARK BRENDER, CHAIRMAN, RADIO-TELEVISION NEWS DIRECTORS ASSOCIATION REMOTE SENSING TASK FORCE

BEFORE THE SUBCOMMITTEE ON SPACE AND AERONAUTICS U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON SCIENCE

JULY 24, 1996

Chairman Sensenbrenner and distinguished members of the subcommittee: I am pleased to testify today on behalf of the Radio-Television News Directors Association regarding the Space Commercialization Promotion Act of 1996. The Radio-Television News Directors Association ("RTNDA") is the world's largest professional organization devoted exclusively to electronic journalism. RTNDA represents local and network news executives, educators, students and others in the radio, television and cable news business in over thirty countries. Over the past several years, RTNDA has urged both the Department of Commerce and the Congress to adopt regulatory policies that will encourage the development of a commercial remote-sensing satellite industry. RTNDA seeks greater availability of high resolution earth images for use by the news media to inform the American public, free from unwarranted government interference.

High-resolution remote-sensing satellites have the potential to offer news organizations and other international data purchasers a unique eye on the world, but only if government regulators allow the open skies to be truly open. The conditions under which such satellites will be operated are important to the success of the endeavor in terms of its financial viability and the independence of operation that would make

satellite imaging a source of unfettered information in a free society. As more sophisticated newsgathering technologies become available to news organizations around the world, RTNDA seeks to ensure that unnecessary government restrictions do not violate traditional First Amendment values.

Therefore, RTNDA seeks changes in federal law and policy that will ensure application of First and Fourth Amendment free-press and search and seizure protections for space-based newsgathering. Changing current federal law and policy will encourage private investment in private companies in the business of selling high-resolution imagery. Precise pictures from space will revolutionize television news, both by freeing reporters from relying solely on government-provided information and by freeing viewers from relying solely on what reporters tell them.

The licensing of private remote-sensing space systems presently is governed by the Land Remote Sensing Policy Act of 1992 ("1992 Act") and Presidential Decision Directive #23, Licensing and Operation of Private Remote Sensing Systems ("Clinton Policy"), which was issued in 1994. The draft bill proposes to amend the 1992 Act to codify the Clinton Policy.

RTNDA maintains that neither the 1992 Act nor the Clinton Policy adequately accommodates constitutional requirements, and that any new legislation, as well as Commerce Department regulations which are the subject of an ongoing rulemaking proceeding at NOAA, must govern private remote-sensing activities in a manner consistent with the Constitution. As presently written, the Clinton Policy and the proposed legislation are unconstitutional.

RTNDA is seriously concerned about several conditions, which currently exist and which would be perpetuated by the proposed legislation, which place in the hands of the government unnecessary and unreasonable control over newsworthy information. First, the government's substantive standard and procedure for restraining dissemination of a company's remote-sensing imagery violates the

First Amendment. Under current policy, the Secretary of Commerce, in consultation with the Secretaries of State and Defense, reserves the right to limit data collection and/or distribution during periods "when national security or international obligations and/or foreign policies may be compromised." The "may be compromised" standard is not the requisite "clear and present danger" standard required by the First Amendment to justify a governmental prior restraint of information. Moreover, consistent with the Constitution, a cabinet member cannot lawfully make a decision to censor the media. Shutter control, a form of prior restraint, can only be exercised after the government has obtained the requisite judicial approval.

Second, any prior restraint on imagery that may compromise "international obligations" is constitutionally questionable. A case in point -- Israel's recent request that the U.S. place restrictions on three U.S. companies that are about to launch commercial. These U.S. companies are preparing to launch imaging satellites capable of seeing items as small as one meter from orbit, yet Israeli officials want them restricted when orbiting over Israel. As RTNDA has warned in numerous instances, other countries or even private individuals will push for similar restrictions over their territories should Israel succeed. Satellite companies could, thus, be faced with blackout areas around the world to accommodate the arbitrary requirements or political whims of individual countries, thus undermining investor confidence. If Israel succeeds in obtaining *de facto* shutter control over U.S. companies, Israel's neighbors will surely ask for the same courtesy, and this action could drive remote-sensing business opportunities overseas.

In the wake of Israel's request, the Senate passed a "Prohibition on Collection and Release of Detailed Satellite Imagery Relating to Israel and Other Countries and Areas." The Senate amendment, done without hearings and on a voice vote, amounts to the creation of a new multilateral regime to decide what images governments will allow

private firms to release. That is an unconstitutional form of prior restraint.

Finally, as embodied in the Clinton Policy, the exclusivity of the government's extracted right to all imagery restrained from release to the public is blatant commandeering and expropriation of property of a private entrepreneur operating not in the role of government contractor. The exclusivity implies that even after any threat to national security has passed, the news media and other members of the public would not be permitted to purchase the imagery from the imaging company. The government would thereby have created an unnecessarily restrictive prior restraint, in violation of the First Amendment.

RTNDA submits that the existing standards and policies governing private remote-sensing do not remove or even mitigate the specter that the government might impose restrictions on companies that would undermine their economic viability. The government's authority to prevent the media's use of satellite images should be no broader than its authority to stop the publication of other sensitive information.

The government can remedy this defect simply by specifying what standards it will use when determining whether to impose restrictions. By dealing with important First Amendment values, the government will transform the business environment from one where only a few companies are even exploring the concept of high-resolution civilian remote-sensing, to one where a number of parties may seriously consider establishing a competitive remote-sensing marketplace in outer space.

Forward thinking laws and policies based on traditional First Amendment values and the standards governing free expression should be the guidepost by which the government sets its bearing. Projecting the man-made boundaries which exist on Earth into the dome of non-sovereign space sets a precedent that runs counter to long-standing U.N. treaties. The emerging age of transparency should be incubated by U.S. laws and policies, but the opposite is happening. The U.S., under

pressure from a foreign government, has evidenced an intent to chart a revisionist course instead of a bold new one. RTNDA is prepared to offer precise comments to bring the proposed legislation concerning remote-sensing in line with constitutional law.

Contacts: Mark Brender
(202) 222-6892 (w)
(703) 276-9151 (h)

David Bartlett
President, RTNDA
(202) 659-6510

Mr. SENSENBRENNER. Thank you.

The gentleman from Florida, Dr. Weldon.

Mr. WELDON. Thank you, Mr. Chairman, Mr. Dailey. I want to thank you and all the witnesses in this second panel.

You had an opportunity to hear Mr. Johns talk about the White House position on the revolving door issue that we were just recently discussing. I know that you can't directly answer for USA. But wouldn't you agree that this provision would provide USA with the maximum flexibility—and I believe you alluded to that in your opening comments earlier—to ensure the shuttle fleet operates safely and efficiently?

Mr. DAILEY. Congressman Weldon, absolutely. Sections 103 and 104, we believe, are very important elements to help implement successfully the privatization of the shuttle.

Mr. WELDON. Once the new reusable launch vehicle becomes operational, Lockheed-Martin will have to operate within yet-to-be-defined regulations established by the federal government.

Could you describe to me the ideal relationship that you would have with the federal government as it relates to commercial space, licensing, and regulations?

Mr. DAILEY. Congressman, you have got me on an area where we—the space sector within Lockheed-Martin Corporation does not do the services side of the shuttle operations, nor the RLV program. We do the expendable launch vehicles and the satellite activities.

I would ask if I could to give you an answer for the record. It's not something that we have focused on within our sector from the company.

Mr. SENSENBRENNER. Without objection.

Mr. WELDON. I thank the Chairman; I yield back.

Mr. SENSENBRENNER. The gentleman from Texas, Mr. Hall.

Mr. HALL. Dr. Dailey, what do you think of the provision in the draft bill that would authorize states—you've heard me ask this same question here before—to license launch sites in place of the Department of Transportation?

Mr. DAILEY. The Department of State, you mean?

Mr. HALL. If not, tell me what impact that would have on provision—what that impact would have on your business if they did.

Mr. DAILEY. Now, is this the provision of the bill that will allow the State Department——

Mr. HALL. Yes.

Mr. DAILEY. We're a little bit——

Mr. HALL. States. No, states.

Mr. DAILEY. States.

Mr. HALL. Yes.

Mr. DAILEY. Congressman, I think that the provision as it currently stands, we've endorsed it. We've got the approval of that particular provision.

Mr. HALL. Would you like to supplement the record on that?

Mr. DAILEY. Sure.

Mr. SENSENBRENNER. Without objection again.

Mr. DAILEY. I didn't know what part of "yes" I was confused on.

Mr. HALL. I'm trying to give you an out, if I can.

[Laughter.]

Mr. HALL. You mentioned Section 103 and 104 and their importance. Are there any provisions in the draft bill that you'd recommend be eliminated or modified? Where are your problems in the bill?

Mr. DAILEY. Well, as I've submitted in the record there, there is a particular part of the bill where there could be a potential conflict of interest by virtue of a NASA official having had contract control over decisions regarding to the formation of USA that probably would be excluded, or should be excluded.

So in that context, we have submitted one recommended change to the provision.

Mr. HALL. Mr. Chairman, I think because of how we're impacted this week, and hoping it will be the last week, and we've got other members that are with other committees and other duties, if we'd be allowed to submit some letters, questions, and have them put for the record?

Mr. SENSENBRENNER. Yes. I have stated a couple of times that the record will be open for seven business days after this hearing, which puts it up to the end of next week, if anybody wants to submit statements for the record. Not merely confined to the two panels of witnesses, but anybody else who wants to submit a statement for the record will be allowed to do so as well.

Mr. HALL. I yield back my time; thank you.

Mr. SENSENBRENNER. I'd like to thank all of the members of this panel for appearing. Again, I'm sorry we have had to speed this up. But I am informed that when the bell rings, there will be four votes lasting about an hour and a half. So I wanted to get this hearing over with without having all of you folks sit here while we were over a-voting.

So again, thank you for your input both verbally as well as in writing. The subcommittee is adjourned.

[Whereupon the subcommittee adjourned at 2:29 p.m., subject to the call of the Chair.]

[The following material was received for the record:]

United States
GPS Industry Council

July 22, 1996

The Honorable Robert S. Walker
Chairman
House Committee on Science
2320 Rayburn House Office Building
Washington, DC 20515-6301

Dear Mr. Chairman:

The US Global Positioning System (GPS) Industry Council is deeply appreciative to you and to the Members of your Committee for your collective vision in ensuring US leadership in an area so vital to the national interest as commercial space. Space-based information is creating significant worldwide market opportunity which provides enormous national advantage in the global information race. Success here will be very important for our economic future.

We are very pleased that the Committee is including language on the GPS in your "Space Commercialization Promotion Act of 1996" (Section 105). This is particularly timely given the opening of negotiations with the international community in Tokyo in August on the use of GPS and its augmentations. It underscores the importance of an integrated interagency approach to these discussions and signals worldwide the support of Congress and the Administration which will help ensure a win for the Nation. Section 105 on GPS promotes, in our view, one of the most rapidly growing areas of space commerce, which has grown from $40 million in 1989 to an estimated $8.5 billion in 2000. GPS is creating a wide array of commercial applications, ranging from safer and more efficient air travel to enhanced public safety and improved voice and data telecommunications. Currently the US leads in all of these markets.

Please feel free to contact me directly (408-481-2922) if I may be of further assistance.

Sincerely,

Charles R. Trimble
Chairman, US GPS Industry Council

cc: The Honorable Jim Sensenbrenner
The Honorable George E. Brown
The Honorable Ralph M. Hall

1100 Connecticut Ave., NW Suite 535
Washington, DC 20036
Tel.: (202)-296-1653 FAX: (202)-862-3929

USA
United Space Alliance

1150 Gemini
Houston, Texas 77058-2708

July 30, 1996

Honorable Robert S. Walker
Chairmen
House Committee on Science
2320 Raybum House Office Building
Washington, DC 20515-6301

Dear Mr. Chairman:

Thank you for the opportunity to review and comment on provisions included in the Space Commercialization Promotion Act of 1996 as they relate to the activities of the United Space Alliance.

As the single prime contractor for the Space Shuttle, United Space Alliance (USA) recommends the approval of Section 103, Exception to Employment Restrictions and Section 104, Benefits for Certain Employees Transferring from NASA. The cognizant section of Title 18, United States Codes and the Federal Procurement Policy Act currently prevents USA from hiring critically skilled NASA employees. Approval of the drafted exceptions to the existing language would give USA the ability to attract NASA personnel who would directly and significantly contribute to the assurance of flight safety and the success of the Shuttle program. Procurement integrity will be ensured by continuing the exception of hiring NASA employees directly involved in selection and award of the organization in which the employee seeks employment.

The ability to attract these employees would also be significantly enhanced by the approval of Section 104, Benefits for Certain Employees Transferring from NASA. In many cases, NASA employees are deterred from joining USA because of loss of service-related benefits that have been accrued during their tenure with NASA. Portability of these Retirement, Disability, Thrift Plan and Health benefits would contribute to the ability of the single prime to attract these critically skilled NASA employees. The single prime contractor would pay the appropriate benefits plan costs and administrative fee as determined by the Office of Personnel Management.

Approval of Sections 103 and 104 is extremely important to the overall success of the Shuttle program and will significantly contribute to safe operation of that program.

Again, thank you for your consideration and action on this important issue. We have taken the liberty of attaching suggested changes to the bill's language which we feel will clarify its intent.

Sincerely,

Kent Black
Chief Executive Officer
United Space Alliance

Jim Adamson
Chief Operating Officer
United Space Alliance

North American Remote Sensing Industries Association

Murray Feisher, Ph.D.
Director

Executive Committee
David H. Johnson
Milton C. Trichel
Jennifer Visick

9 August 1996

Hon. James Sensenbrenner, Jr.
Chairman
United States House of Representatives
Subcommittee on Space and Aeronautics
2320 Rayburn House Office Building
Washington DC 20515

Dear Mr. Sensenbrenner,

The following are comments related to the The Science Committee's Subcommittee on Space and Aeronautics hearings held 31 July 1996 entitled "The Space Commercialization Promotion Act of 1996." We appreciate the opportunity to insert these comments into the official record of the hearing.

The North American Remote Sensing Industries Association (NARSIA) represents both space and ground segment commercial entities engaged in all aspects of commercial remote sensing. At our Second Annual Congress, held 25-26 July 1996 here in Washington DC, the delegates present discussed means by which our industry could inform and educate both the public and governmental institutions as to our programs and our concerns.

An example of an issue causing us some apprehension is the Senate's Bingaman-Kyl Amendment to the 1997 National Defense Authorization Act, S.1745, since gone to conference. We want to place on record our continuing concern that the conference wording, though considerably less threatening to our industry when compared to the original amendment, still sets a dangerous precedent and continues to place our industry in harm's way. The NARSIA delegates unanimously agreed that adequate provisions already exist in U.S. statutes and regulations to control access to U.S. commercially-derived space imagery in times of crisis. Any congressional wording, however benign, that provides another country with "unique"

1057-B National Press Building, Washington, D.C. 20045 • Phone and Fax (202) 393-3640 • felsher@tmn.com

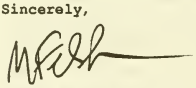
treatment as to regular commercial access from space over its territory, runs directly counter to our county's well-established, bipartisan "Open Skies Policy" advocated in turn by President Eisenhower and every administration that has followed.

We simply cannot allow an American industry to be held hostage to another country's security uneasiness, however valid that uneasiness might be, and however "special" might be the relationship between that country and the U.S. It is important to note that any imagery acquired over the country in question will be provided, in any case, by companies outside the U.S., thereby placing U.S. commercial interests in jeopardy.

The precedent set by allowing Israel, here, to dictate to the U.S. the conditions by which U.S. commercial space-derived imagery is to be acquired over its territory is dangerous and potentially ruinous. Consider the possibilities. Should we allow this foreign adventure into our legislative process, then what is to prevent another country from petitioning our government to halt a U.S. company from imaging anything, anywhere. Parenthetically, we note that Israel Aircraft Industries (IAI) has announced plans to launch "...remote sensing satellite systems...based...on the IAI Space Technologies Directorate's successful low earth orbiting satellite technology. The first satellite, scheduled for launch in mid 1997, will carry a single panchromatic sensor with better than 1.5 meter resolution. At least seven additional second generation satellites, combining one meter panchromatic and multispectral image acquisition, are scheduled for launch between 1998 and 2002." Would it not be ludicrous for our government to petition the Israeli parliament to prevent the IAI satellites from imaging U.S. territories? Yet this is precisely what the Israeli government has accomplished with its foray into our halls of Congress!

We continue to believe that, other than in times of conflict, space-derived global image information should be commercially acquired, distributed, and available, without restriction --- by anyone, over any point on Earth.

Sincerely,



Murray Felsher, Ph.D.
Director

REED SMITH SHAW & MCCLAY

1301 K STREET, N.W.
SUITE 1100 - EAST TOWER
WASHINGTON, D.C. 20005-3317
202-414-9200

PITTSBURGH, PA
PHILADELPHIA, PA
HARRISBURG, PA
McLEAN, VA
PRINCETON, NJ
NEW YORK, NY

FAX 202-414-9299

WRITER'S DIRECT DIAL NUMBER
(202) 414-9277

August 1, 1996

VIA MESSENGER

F. James Sensenbrenner, Jr.
Chairman
Subcommittee on Space and Aeronautics
U.S. House of Representatives
Committee on Science
Suite 2320
Rayburn House Office Building
Washington, D.C. 20515-6301

Chairman Sensenbrenner:

On July 31, 1996, Mark E. Brender, Chairman of Radio-Television News Directors ("RTNDA") Association Remote-Sensing Task Force, testified before your subcommittee regarding the Space Commercialization Promotion Act of 1996. Mr. Brender's testimony focused on the need for federal law and policy governing the licensing and use of private remote-sensing space systems to comport with traditional First Amendment principles.

It is our understanding that you have opened the record for further comment. Therefore, I have enclosed a copy of the comments filed by RTNDA in NOAA's ongoing rulemaking proceedings concerning remote-sensing. These comments elaborate on the constitutional issues raised by Mr. Brender in his recent testimony, and may assist you in drafting legislation that is not only constitutionally sound, but also will encourage private investment in private companies in the business of selling high-resolution imagery.

Please direct any inquiries concerning the enclosed to the undersigned, counsel for RTNDA.

Sincerely,

Kathleen A. Kirby

cc: Mr. David Bartlett
Mr. Mark E. Brender

DC1B-0332711.01-KAKIRBY
August 1 1996 5:23 PM

Before the
DEPARTMENT OF COMMERCE
Washington, D.C. 20233

In the Matter of	)	
	)	
	)	
Licensing of Private	)	Docket No. 951031259-5259-01
Remote-Sensing Space Systems	)	
	)	

To: National Oceanic and
Atmospheric Administration

COMMENTS OF
THE RADIO-TELEVISION NEWS DIRECTORS ASSOCIATION

The Radio-Television News Directors Association, American Society of Newspaper Editors, The Media Institute, National Broadcasting Company, Inc. and Reporters Committee for Freedom of the Press ("Joint Parties") hereby submit their comments in response to the Notice of Inquiry issued by the National Oceanic and Atmospheric Administration ("NOAA") in the above-captioned proceeding.[1] The Joint Parties consistently have maintained that the developing marketplace for commercial remote-sensing imagery is inhibited by a regulatory environment that does not adequately reflect the free-expression standards of U.S. constitutional law. The Joint Parties welcome this opportunity, therefore, to assist NOAA in the drafting of updated regulations for licensing U.S. commercial remote-sensing systems, particularly in clarifying

---

1 Licensing of Private Remote-Sensing Space Systems, 60 Fed. Reg. 62,054 (December 4, 1995) ("Notice" or "NOI").

those provisions relevant to the government's ability to exert "shutter control" over the imaging satellites. Chiefly, the Joint Parties submit that two aspects of the current government policy -- an improper standard of national security endangerment and an improper procedure for determining any such danger -- must be revised to comport with established First Amendment protections.

I. STATEMENT OF INTEREST

The Radio-Television News Directors Association ("RTNDA") is the world's largest professional organization devoted exclusively to electronic journalism. RTNDA represents local and network news executives, educators, students and others in the radio, television and cable news business in over thirty countries. Over the past several years, RTNDA has urged both the Department of Commerce and the Congress to adopt regulatory policies that will encourage the development of a commercial remote-sensing satellite industry.

RTNDA believes that American companies, including news-media companies should they so desire, must have the opportunity to provide, or to use, high-resolution and near real-time images of earth under standards of government satellite licensing that are consistent with the First Amendment to the Constitution. As explained more fully below, RTNDA advocates a regulatory scheme that differs from existing policy by providing the First Amendment protections needed by private satellite owners and by news-media users of remote-sensing imagery.

The American Society of Newspaper Editors is a professional organization of over 850 persons who hold positions as directing editors of daily newspapers throughout the United States. The purposes of the society include the on-going responsibility to improve the manner in which the journalism profession carries out its responsibilities in providing an unfettered and effective press in the service of the American people.

The Media Institute (the "Institute") is an independent, non-profit research organization that advocates a strong First Amendment. The Institute has participated in select cases in federal circuit courts and the U.S. Supreme Court. In addition, it conducts research projects and sponsors publications relating to the First Amendment and other aspects of the communications media. In 1988, the Institute joined with RTNDA and other media groups in filing a Petition for Rulemaking before NOAA regarding remote-sensing imagery. The advocacy of the Institute here is unrelated to the financial or proprietary interests of any private-party participant.

The National Broadcasting Company, Inc. ("NBC") is a wholly-owned subsidiary of the General Electric Company, whose shares are publicly traded on the New York Stock Exchange. NBC operates a national television network serving over 200 affiliated television stations nationwide, as well as owning six television stations in major markets. In addition to maintaining news bureaus throughout the United States, NBC News has worldwide news gathering operations.

The Reporters Committee for Freedom of the Press ("Reporters Committee") is a voluntary unincorporated association of reporters and news editors from the print and broadcast media devoted to the protection of the First Amendment interests of the press. It has provided representation, information, legal guidance or research in virtually every major press freedoms case litigated since 1970.

II. INTRODUCTION

Satellites have been an important intelligence-gathering tool since they were first launched. With reconfigurations of the world's politics, however, notably the fall of the Soviet Union and the end of the Cold War, there has been a rethinking about how to use and regulate satellites for commercial purposes, such as mapping, as well as for news gathering. As a result, the remote-sensing market is projected to grow to $15 billion by the end of the decade.[2]

Remote-sensing imagery is an increasingly significant source of information for the electronic and print press in reporting the news. For example, remote-sensing satellites proved to be an invaluable news resource in the aftermath of the Chernobyl nuclear reactor accident. As access to the site was impossible, satellite pictures were obtained and released by the media. The pictures highlighted the true extent of the facility's damage and helped prevent a potential coverup of the situation. Network

---

2 Hernandez, Debra, "Regulating Commercial Satellite Gathering of Information," Editor & Publisher, March 5, 1994 at 14.

newscasts have used remote-sensing images to construct three-dimensional virtual flights over Bosnia. Similar images were broadcast during Operation Desert Storm and, more recently, to depict the damage done by Midwest flooding. High resolution photographic satellites have the potential to become a standard piece of equipment in the news gathering business.

As the media learn more about remote-sensing imagery and photo-interpretation analysis, they will begin to rely more heavily upon imagery not only as one way to cover certain stories, but as a source of stories that might never have been discovered otherwise. This field, then, has the potential to become not only a viable commercial enterprise but also an invaluable public interest vehicle, contributing exponentially to the news media's ability to gather information, and thus, to the public's "right to know."

Further, these commercial systems will offer low-cost images for government needs, preserve jobs and knowledge in a vital area of technology and ensure U.S. leadership in the imaging industry. In crafting its regulations, therefore, NOAA should take every precaution not to hinder the use of this investigative tool unnecessarily and unlawfully. The government's existing licensing procedures, which are ambiguous at best, impose considerable restrictions on private, domestic remote-sensing licenses, affecting and potentially limiting access to specific images.

More specifically, it is not enough for the regulations governing private remote-sensing licensees to state that certain

restrictions will be imposed, if at all, on a case-by-case basis. The press must be able to know with a reasonable degree of certainty, before applications have been filed, whether, when and how content-based restrictions will be imposed. NOAA's current standard does not remove or even mitigate the specter that the government might seek to impose restrictions on licensees that undermine the economic viability of a remote-sensing system dedicated to news gathering. If not revised, NOAA's rules will inevitably "chill" the willingness of mass media organizations and other parties to invest substantial sums in developing such systems and applying for a license to operate them. By simply specifying the standards it will use when determining whether to impose restrictions, NOAA will transform the business environment from one where only a few companies are even exploring the concept of high-resolution civilian remote-sensing, to one where a number of parties will seriously consider establishing a competitive remote-sensing marketplace in outer space.

III. CURRENT LAW AND POLICY

The standards and procedures governing the licensing of private remote-sensing space systems are an ambiguous composite of NOAA's current regulations, the conditions placed on licenses recently issued, and the dictates of a policy statement issued by the Clinton Administration in 1994. NOAA's existing regulations were promulgated pursuant to the Land Remote-Sensing Commercialization Act of 1984 ("1984 Act") and were revised when Congress passed the Land Remote-Sensing Policy Act of 1992, 15

U.S.C. § 5601 ("1992 Act"). On March 10, 1994, President Clinton issued a policy designed to promote U.S. competitiveness in remote-sensing space capabilities while protecting U.S. national security and foreign policy interests.[3] The new remote-sensing policy reflects substantial strides toward turning advanced spy satellites into commercial enterprises and, for the first time, permits U.S. firms to sell satellite imagery down to one meter in resolution -- clear enough to see a car in a driveway.

Under current U.S. policy, the Secretary of Commerce, in consultation with the Secretaries of State and Defense, reserves the right to limit data collection and/or distribution during periods "when national security or international obligations and/or foreign policies *may be compromised*" (emphasis added).[4] Disputes between the secretaries concerning whether or not to exercise shutter control over a satellite would be settled by the President.

IV. REGULATIONS GOVERNING PRIVATE REMOTE-SENSING SYSTEMS DO NOT COMPORT WITH TRADITIONAL CONSTITUTIONAL PROTECTIONS

A. The Government's Substantive Standard and Procedure for Restraining the Collection and Dissemination of Imagery Violates the First Amendment

There has been a consensus among governmental and private parties that media remote-sensing is a form of news

---

3 U.S. Department of Commerce News, U.S. Deputy Secretary of Commerce David J. Barram Announces Administration's New Policy on Remote-Sensing Space Capabilities," with "Fact Sheet," March 10, 1994.

4 Id.

gathering which is protected under the First Amendment's guarantee of freedom of the press. NOAA has acknowledged its obligation to ensure that any standard and process for making decisions concerning the need for restriction on imaging must ensure that the Government has the ability to protect its national security and international obligation interests adequately while preserving First Amendment rights. The government's existing procedures and substantive standard for determining threats to national security that could justify censorship of imagery, however, simply do not comport with First Amendment protections. For the news media, current U.S. policy governing remote-sensing images creates the possibility of prior restraint of both the gathering and dissemination of news, because it grants the government "shutter control" over privately owned commercial remote-sensing systems without the requisite showing of a clear and present danger or a judicial determination that such censorship is justified.[5] In other words, current policy dictates a form of censorship of earth pictures that is not consistent with the substantive and procedural standards of the First Amendment.

1. The "May Be Compromised" Standard Is Not The Requisite "Clear and Present Danger" Standard

Prior restraints represent the quintessential abridgement of speech. The Supreme Court traditionally has given emphatic rhetorical support to the general principle that the state should not subject expression to prepublication censorship, stating that

---

5 Id.

35-039 O - 96 - 4

an aversion to prior restraint is "deeply etched in our law."[6] Moreover, the Court repeatedly has held that any system of prior restraints of expression "bears a heavy presumption against its constitutional validity" and that the party seeking a restraint "carries a heavy burden of showing justification for the imposition of such a restraint."[7] The Joint Parties urge NOAA to create a regulatory environment conducive to commercial investment and development by recognizing explicitly that the burden of proof is on the government to show that desired restrictions are justified, not on remote-sensing applicants or licensees to prove they are not.

The NOI acknowledges the prior restraint issue as one of paramount importance in NOAA's licensing scheme, recognizing that, "once a license is issued and a remote-sensing satellite is operational, the most critical issue for the licensee is when the Government might restrict imaging of a particular area and for how long because of national security or foreign policy considerations." Notice at ¶ 2.

As the Joint Parties consistently have stated before this agency and before Congress, the "may be compromised" standard must be altered to afford licensees adequate constitutional protections. The current standard establishes too low a threshold of proof for finding the requisite danger to national security or international obligations, matters recognized for

---

6 Southeastern Promotions Ltd. v. Conrad, 420 U.S. 546, 559 (1975).

7 New York Times Co. v. United States, 403 U.S. 713 (1971).

special consideration in licensing under two acts of Congress dealing with remote-sensing satellites.[8] In essence, the "may be compromised" standard permits a non-judicial finding of a small and uncertain danger instead of the judicially-determined "clear and present danger" or "serious and imminent threat" required by the First Amendment to trigger a governmental prior restraint of information and is, therefore, constitutionally infirm.[9]

Moreover, NOAA cannot equate content-based restrictions and prior restraints on licensees with a denial of access to government property or information. Governments do not own or

---

8 Land Remote-Sensing Commercialization Act of 1984, 15 U.S.C. §§ 4201-4292 (1988 ed.); Land Remote-Sensing Policy Act of 1992, 15 U.S.C. §§ 5601-5672.

9 During the 103rd Congress, several amendments to the 1992 Act were proposed in bills considered by the Senate and the House of Representatives, intended to further reduce the possibility of unlawful governmental "shutter control" of newsworthy imagery. H.R. 4489 would have removed the power of the Defense and State Departments to determine conditions for the protection of national security and international obligations, respectively. That decisionmaking would be exercised solely by the Secretary of Commerce. Moreover, any government action to prohibit remote-sensing operations would have to be reported to the Congress within 30 days.

The House Committee report for that bill strongly questioned the government's "may be compromised" standard, and it disapproved of the addition of "foreign policies" as a governmental interest justifying censorship of imagery. The congressional committee stated that "private remote-sensing space systems, once licensed, should not serve as foreign policy tools, but should simply be operated in a manner that preserves U.S. national security and observes international obligations of the United States." The 103rd Congress adjourned before both Houses could agree on consensus legislation containing the suggested provisions.

On March 27, 1995, S. 625 was introduced in the Senate by Senator Pressler. That bill was designed to replicate or resurrect some of the proposed amendments to the 1992 Act made during the 103rd Congress.

possess outer space, and thus, beyond ensuring that international space agreements are met by entities launching and operating remote-sensing satellites, governments cannot successfully treat the regulation of private remote-sensing imagery as a matter of controlling satellite access rather than imposing a prior restraint on dissemination of earth imagery.

2. Any Prior Restraint On Imagery That May Compromise "International Obligations" Or "Foreign Policy" Is Constitutionally Questionable

Further, it is constitutionally questionable for NOAA to include "international obligations" as an independent reason for such a prior restraint, regardless of whether violation of an international obligation would constitute a serious and imminent threat to national security. International obligations are, at least, established as a category for protection under the 1992 Act. On the other hand, NOAA's assertion of a power to protect the much broader and politically controversial category of "foreign policies" from possible compromise by information disclosure is not at all supported by the relevant provision of the 1992 Act. See 15 U.S.C. §§ 5621(b), 5622(b)(1), 5623(1)(2). That overreaching by NOAA, in a political area where free speech has its highest protection, is especially vulnerable to First Amendment attack and should be repudiated. The Administration's policy statement, as quoted above, also unlawfully advances a new non-statutory interest, "foreign policies," as grounds for restricting remote-sensing activities.

3. Approval of Censorship By A Cabinet Member Is Not The Requisite Judicial Approval

When the policy statement is read together with the conditions in remote-sensing satellite licenses (conditions which assertedly permit the Secretary of Commerce to cut off imagery to the public and to commandeer the use of that imagery), it becomes clear that any intended censorship action by the executive branch of government is not made subject to advance review by the judicial branch, as required by case law interpreting the First Amendment. Constitutional law places exclusively in the hands of the independent judiciary the power to decide whether and how to implement prior restraints concerning a dispute between the government and a private party whose anticipated expression would allegedly create a danger to society.[10] The Supreme Court consistently has held that government officials may not impose a final prior restraint without first obtaining a judicial determination that such a restraint comports with the First Amendment. Southeastern Promotions, Ltd. v. Conrad, 420 U.S. 548, 560 (1975). In situations where NOAA desires to prevent specific remote-sensing data or imagery from being acquired or disseminated by a private remote-sensing licensee, the only mechanism for doing so that is consistent with the First Amendment is for NOAA to obtain an order of injunction from a

---

10 See, e.g., Freedman v. Maryland, 380 U.S. 51 (1965).

federal court after making the evidentiary showing required by the First Amendment.[11]

B. Current Policy Violates The Fourth and Fifth Amendments

The current standard also raises Fourth Amendment and Fifth Amendment questions about the potential government taking and use of imagery prohibited from being disseminated to the public.[12] Adding to the potential injury of its anticipated prior restraints, NOAA has conditioned licenses recently issued to Lockheed Missiles and Space Company, Inc. Orbital Sciences Corporation, and Ball Aerospace[13] to require the licensees to make the censored material available "exclusively" to the U.S. government, at a price to be negotiated. Having denied these companies their commercial markets for the data, the government would, perhaps, dictate a fire sale price for its "exclusive" on the material. NOAA also requires that the government be given all information on data downlink formats to assure access during

---

11 Arguably, advance judicial review is already required by a section of the current law, 47 U.S.C. § 5623(a)(2), which provides for injunctive relief in federal courts for enforcement of the terms and conditions of licenses. The government's current policy ignores this statutory provision, however.

12 The Fourth Amendment to the Constitution prohibits unreasonable government searches and seizures. The Fifth Amendment in part prohibits government taking of property without just compensation.

13 See Letter from Gregory W. Withee, U.S. Department of Commerce, to Walter S. Scott, WorldView Imaging Corporation (Jan. 3, 1993); Letter from Robert S. Winokur to Albert E. Smith, Lockheed Missiles and Space Company, Inc. (Apr. 22, 1994); Letter from Robert S. Winokur, U.S. Department of Commerce, to Gilbert D. Rye, Orbital Sciences Corporation (May 5, 1994).

such periods, presumably in the process giving the government confidential information for gaining access to the companies' downlinking operations at any time.

This government commandeering of private property is not only antithetical to traditional notions of free-market ownership and fair dealing, but also, the prospect of such a government expropriation presents substantial perverse incentives, contrary to the 1992 Act, for the government to conclude that national security may be compromised when the government knows that there is no such threat. Moreover, such a taking raises questions as to whether the government's underlying motive in granting commercial licenses is to provide a back-up for its own intelligence gathering, e.g., affording it the ability to confiscate the fruits of news gathering efforts in areas where the government does have its own reconnaissance.

Further, this government-commanded exclusive on the subject matter of the satellite's data production during these periods implies that, even after the passing of the crisis that arguably required such a prior restraint on information dissemination to the public, remote-sensing companies would be prohibited from making this information available to the public. The companies' and the news media's First Amendment rights to gather and disseminate information when there is no danger to national security would thereby clearly be violated. Any kind of restraint on the freedom of expression must be the least restrictive for satisfying the overriding governmental interest, in this case, national security.

V. PROPOSALS

In light of the above, the Joint Parties submit that, in revising its regulations, NOAA must specify in detail and in advance the standards and procedures it will use in determining whether alleged national security or foreign policy considerations rise to the level required by the First Amendment to justify imposing restrictions on private remote-sensing licensees. Those standards and procedures have already been developed by federal courts in construing and applying the First Amendment. By incorporating those standards and procedures into its remote-sensing rules, NOAA will remove unnecessary obstacles, created by its own rules, to the development of a competitive presence in the commercial remote-sensing industry.

Specifically, the Joint Parties recommend that NOAA incorporate into its rules the "clear and present danger" standard and require judicial proceedings to determine if that standard has been met before any cease-and-desist order is issued against the collection or dissemination of remote-sensing imagery.

The Joint Parties propose that NOAA's rules, as revised, incorporate the following language:

> The Administrator shall not deny an application for a license or for an amendment thereto, or insert terms, conditions or other provisions in a license, or take any other action against a licensee unless there is clear evidence that such action is necessary to prevent serious and immediate injury to distinct and compelling national security interests of the United States, or to prevent violations of valid international treaty obligations of the United States. Any

> determination based on one or more of these grounds which is adverse to the interests of an applicant or licensee shall be made in a written statement containing a full explanation of the reasons therefore, with specific findings of fact and conclusions of law on all material issues. Those findings and conclusions must show that there are no less restrictive means by which the United States government could accomplish the intended purpose.

The First Amendment entitles the media to know with reasonable certainty when and under what standards restrictions will be imposed. This suggested language no more than reflects the standards which courts have developed for the express purpose of determining when restrictions may be imposed on the press in order to promote other national interests.

Similarly, NOAA's revised rules should include the following:

> In situations where the Administrator desires to prevent unenhanced or enhanced data from being acquired, used or disseminated in violation of the Act, these regulations or the requirements of any license, the Administrator shall first seek an order of injunction or similar judicial determination from a United States District Court which possesses both personal and subject matter jurisdiction and afford the licensee and/or affected parties adequate notice and opportunity for hearing.

These amendments ensure that the Administrator will not impose a final prior restraint without first obtaining, as the Supreme Court has required, a judicial determination that such action is consistent with the First Amendment.

V. OTHER ISSUES

Finally, the Joint Parties challenge the authority by which NOAA keeps application proposals and terms of operation secret from the public. This secrecy contrasts sharply with the practices of other federal agencies, such as the Federal Communications Commission's provision of a public reference room where all applications, including those involving satellites, are made available. The Joint Parties submit, therefore, that NOAA's rules should be revised to require open license application files.

VI. CONCLUSION

The Joint Parties submit that NOAA must revise its licensing and regulation of commercial remote-sensing satellites so as to preserve First Amendment protections. By doing so, the agency will assure public access to important information obtainable from earth imagery except where a court determines that national security is clearly and imminently threatened. It will also promote a vigorous American remote-sensing industry ready to compete worldwide in a knowledge-based society. In an information age in which the free flow of remote-sensing information is both American policy and, increasingly, global fact, the United States cannot either legally or practically prohibit the collection or

publication of such broadly available and newsworthy material.

Respectfully submitted,

THE RADIO-TELEVISION NEWS DIRECTORS ASSOCIATION

By: Kathleen A. Kirby

Kathleen A. Kirby

REED SMITH SHAW & McCLAY
1301 K Street, N.W.
Suite 1100 - East Tower
Washington, D.C. 20005-3317
(202) 414-9200

Its Attorneys

AMERICAN SOCIETY OF NEWSPAPER EDITORS

By: /s/ Richard M. Schmidt, Jr.
Richard M. Schmidt, Jr.
COHN & MARKS
Suite 600
1333 New Hampshire Avenue, N.W.
Washington, D.C. 20036

Its Attorneys

THE MEDIA INSTITUTE

By: /s/ Richard T. Kaplar
Richard T. Kaplar
Vice President
Suite 301
1000 Potomac St., N.W.
Washington, D.C. 20007

NATIONAL BROADCASTING COMPANY, INC.

By: /s/ Howard Monderer
Howard Monderer
1825 K Street, NW
Suite 807
Washington, DC 20006

Its Attorney

REPORTERS COMMITTEE FOR FREEDOM OF THE PRESS

By: /s/ Jane E. Kirtley
Jane E. Kirtley
1101 Wilson Boulevard
Suite 1910
Arlington, VA 22209

Its Attorney

February 2, 1996

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

September 10, 1996

The Hon. F. James Sensenbrenner, Jr., Chairman
Subcommittee on Space and Aeronautics
Committee on Science
2320 Rayburn House Office Building
Washington, D.C. 20515

Attn. Rich Stombres

Re: Additional Questions for the Record

Dear Mr. Chairman:

Thank you for inviting me to participate in the subcommittee hearings of July 31 on the *Space Commercialization Promotion Act of 1996*. I hope my comments were helpful given that commercial space industries are of increasing importance to the United States. At your request, I would like to provide responses to additional questions submitted for the record.

What is the *open skies* policy as it relates to remote sensing?

Open skies is a term that is applied to space activities in general rather than just remote sensing. As an original signatory to the 1967 Outer Space Treaty, the United States supports the right of all countries to use space for peaceful purposes and recognizes the responsibility of appropriately regulating the space activities of persons subject to its jurisdiction and control. The United States has and will continue to conduct remote sensing activities for commercial, scientific, and national security purposes.

What is the Administration's current position on a blanket prohibition on imaging certain countries or geographic areas imposed on U.S. remote sensing firms?

The Administration is aware of the terms of the Kyle/Bingaman amendment to the Defense Authorization Bill. Under the terms of the Land Remote Sensing Act of 1992 and the President's March 10, 1994 directive on remote sensing, the Secretary of Commerce is responsible for determining appropriate conditions, if any, on U.S. remote sensing operating licenses. It is our position that any prohibitions should be limited in area and duration to be as least disruptive as possible to U.S. firms consistent with the actual threat to the United States and its allies. Such prohibitions would be imposed by the Secretary of Commerce only as necessary for national security after consultation with the Secretaries of Defense and State. If blanket prohibitions do prove

necessary, we believe it would be more effective and flexible to define them in regulation rather than in statute.

Is the best way to protect U.S. security interests for American companies to dominate the field of remote sensing?

U.S. leadership in commercial remote sensing would help protect U.S. security interests in several way. It would provide new sources of data for U.S. armed forces, preserve and advance crucial technical skills in a period of constrained Federal budgets, and help deter the proliferation of remote sensing capabilities by effectively meeting global market demands for data.

The United States does not *dominate* the field of remote sensing, but does seek mutually beneficial international partnerships. To this end, the United States engages in military and scientific cooperation in remote sensing, and allows for foreign investment in U.S.-licensed ventures.

According to press reports and government statements, Russia, France, China, Israel, and Brazil are all seeking to aggressively enter or expand their share of the international market in remote sensing. Is it correct then, that the U.S. had no binding way in which to limit the imaging of these other nations?

At present, the United States is a leader in remote sensing. It is also true the many other countries are seeking to compete in international markets. The countries are sovereign states which are free to use space for peaceful purposes just as the United States is. It is difficult to imagine a feasible, enforceable international agreement which would effectively limit remote sensing activities for peaceful purposes.

What type of impact do you think a policy like the Kyle/Bingaman amendment (prohibiting U.S. firms from imaging Israel) will have on U.S. firms that are currently investing in remote sensing capabilities? Do you think that a blanket prohibition on imaging like this will have an effect on investment in American remote sensing ventures?

The Administration does not have a position on the potential economic impact of the Kyle/Bingaman amendment. The Administration has continually supported the creation and maintenance of a stable policy environment which would foster private sector investment in commercial space activities, including remote sensing. It is certainly our hope and intention that necessary and carefully limited prohibitions would not have any significant financial effect on U.S.-licensed ventures.

Is it likely that other countries will seek the same type of imaging exclusion that Israel would receive under the Kyle/Bingaman amendment? If the government prohibits imaging of certain countries, do you think that the U.S. should ask for a similar arrangement prohibiting foreign entities from imaging the U.S.?

The United States has been and will remain committed to the security of Israel and will support Israel in the search for a lasting peace in the Middle East. The importance and significance of excluding Israel from commercial remote sensing has been the subject of extensive interagency review. The terms and conditions of any prohibition on imaging Israel will be dictated by the unique strategic situation of Israel. We are not aware of any other situation which would necessitate the extraordinary steps taken in this case. We also do not believe it is practical or desirable to seek limitation on peaceful remote sensing of the United States.

Russia currently has remote sensing imagery that is selling commercially at 2 meters resolution. Several American firms are privately developing remote sensing satellites that have a 1 meter resolution. Given Russia's desire for hard currency, is it likely that Russia will refrain from selling images of Israel?

It is possible that Russia might choose to refrain from selling images of Israel and we understand that discussions have occurred between the Russian Federation and the Israeli government. Monitoring and enforcement of any formal agreement would like be a challenge, however, given the sophistication of global communication networks.

You state in your testimony, that FAA and DOD are leading an interagency process to develop guidelines to clearly define the relationship between federal facilities and spaceport activities. Are you referring to guidelines and not regulations, if so please explain in further detail. Is this interagency process an effort to actually develop regulations to license spaceports?

FAA and DOD are co-chairing an interagency working group that includes NASA, State, and Commerce. The group is developing proposed guidelines for Federal Government interaction with launch site operators. These guidelines will define government roles and responsibilities as they relate to potential spaceport operations. The intent of the Administration is to ensure that there is a clear and predictable government environment that encourages commercial ventures. The interagency working group expects to complete the guidelines this month and forward them to OSTP and the NSC for review.

The FAA has the lead for developing regulations for commercial space launch activities and the DOD will be part of any regulatory review prior to publication for public comment.

You mention in your testimony that the FAA is in the process of developing draft regulations for licensing launch activities involving spaceports. When will these be released?

FAA intends to go through the formal rule-making process and intends to have a complete draft set of regulations for spaceports early next year.

The H.R. 3936 provisions on GPS are based on the President's recently announced policy. Do you anticipate any changes in policy that should be considered for this bill?

No. Policy clarity and stability are vital to U.S. economic and security interests in the Global Positioning System. The Administration appreciates the cooperative spirit taken with respect to the GPS-related provisions in the draft bill. The State Department has begun international discussions of GPS policy, beginning with Japan, and we hope to see GPS adopted as a global standard for navigation, position-location, and precision timing.

Thank you again for inviting me to participate in these hearings. Please feel free to contact me if I can provide additional information.

Sincerely,

Lionel S. Johns
Associate Director for Technology

National Aeronautics and
Space Administration

Headquarters
Washington, DC 20546-0001

Reply to Attn of LB:MDD:L96-643f

SEP 12 1996

The Honorable F. James Sensenbrenner
Chairman
Subcommittee on Space and Aeronautics
Committee on Science
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Enclosed is the edited transcript resulting from the July 31, 1996, hearing at which LtGen. Armstrong testified concerning the Space Commercialization Promotion Act of 1996. Also, enclosed are responses to written questions. This material completes the information requested during that hearing.

Sincerely,

Mary D. Kerwin
Deputy Associate Administrator
for Legislative Affairs

Enclosure

Responses to written questions submitted by Chrm. Sensenbrenner resulting from the July 31, 1996, hearing.

QUESTION 1:

Are there NASA employees currently in critical Space Shuttle jobs that would be reluctant to leave the federal government to work for the single prime contractor? If so, is this due in part, to the loss of civil service benefits?

ANSWER 1:

A decision to leave NASA or the federal government, in general, is a personal decision and varies from individual to individual. We cannot predict who or why employees in the Space Shuttle program would seek outside employment or remain at NASA.

QUESTION 2:

Would NASA employees in critical Space Shuttle jobs have problems with going to work for the single prime contractor given post-employment restrictions which are dealt with in Section 103 of H.R. 3936?

ANSWER 2:

It is not anticipated that "critical" Space Shuttle positions would transition to the prime contractor.

QUESTION 3:

Does the Administration disagree with providing portability even in dealing with the limited situation of the Shuttle transition?

ANSWER 3:

The Administration disagreed with the use of portability of benefits to "encourage former Government employees to become employees of a Government contractor." The response did not delineate a difference between the transition of Shuttle operations and other situations.

QUESTION 4:

Would the buyout that NASA is proposing, and this is contained in the Senate FY 1997 VA/HUD Independent Agencies appropriations bill, come out of existing funds? Is NASA not requesting new money for this effort?

ANSWER 4:

The language in the bill was not proposed by NASA; however, if we were successful in obtaining a buyout, we would manage the buyout in such a way that the cost of buyout would not exceed available salary dollars.

QUESTION 5:

What happens to the skill mix at NASA if you cannot do a buyout and are forced to proceed with a reduction-in-force (RIF)?

ANSWER 5:

Although a RIF could be managed to lessen the impact on the Agency's skill mix, a RIF is more costly than a buyout, and has a devastating impact on diversity, vitality (due to its effect on newer, younger employees), and morale. The non-monetary costs associated with RIF would undermine the long term vitality of this agency. In order to remain on the cutting edge in scientific research and discovery, we must continue to balance our senior, experienced workforce with more junior employees who have had recent technical training and bring to the agency an explosion of new ideas and thought processes.

QUESTION 6:

Due to the relatively young workforce at Kennedy Space Center, would the buyout have much effect on the workforce there?

ANSWER 6:

Based on the results of our 1994 and 1995 buyouts (i.e. 321 KSC employees separated with a buyout), we would anticipate some success at KSC if an additional buyout were offered. We may not be able to completely accommodate KSC's downsizing needs with a buyout alone. However, we believe that the need for a RIF can be substantially reduced if a buyout were followed by a rebalancing effort which involved the relocation of some remaining KSC employees into openings created by the buyout at other NASA Centers.

Mr. Gil Klinger

Questions Submitted for the Record
"Space Commercialization Promotion Act of 1996"
Hearing before the Subcommittee on Space July 31, 1996

1. Why doesn't DoD already procure space launch services commercially for its routine payloads?

   - The Air Force is assigned the task, in accordance with the Unified Command Plan, to develop, integrate, and launch DoD space systems. To meet that responsibility, the Air Force provides the operations, training and support to acquire and operate launch facilities and launch systems. This significant investment and operations and maintenance cost is borne by the Air Force. This system has worked effectively in supporting important national security systems. This has also benefited the commercial sector, as procurement of launch systems has been accomplished through commercial contracts and government property (i.e. launch sites) have been offered and used by the commercial sector at a minimal cost. DoD is committed to using commercial services whenever feasible and to supporting the commercial space sector by offering excess government equipment, property and manpower at minimum direct cost. For example, the Navy successfully procured commercial launch services to support the launch of their UHF Follow-On (UFO) satellite. Additionally, the Department views the ongoing Evolved Expendable Launch Vehicle (EELV) as having a strong commercial base which would allow DoD to assess commercial launch services in the future.

2. Does the language in section 301 satisfy DoD concerns on procurement of commercial services?

   - No, the DoD must have the authority and discretion to decide on whether commercial launch services or DoD launch services are required for specific national security payloads. Whenever it is appropriate and cost-effective, the department supports the use of commercial services and products. DoD will continue to use commercial services whenever feasible.

3.. Does the bill's provisions on the use of excess ballistic missiles for space launch raise any national security concerns?

   - No, the language is in accordance with the President's National Transportation Policy.

4. Congress is looking for consultation from DoD when a remote sensing license is modified, does this cause any concerns?

- Yes, the DoD input to Commerce on licensing requests should be treated as a working paper and a recommendation. Congress should approach Commerce for inputs on the licensing process.

RESPONSE
of
DR. BRIAN D. DAILEY
to
ADDITIONAL QUESTIONS SUBMITTED FOR THE RECORD
of the
HEARING
on
SPACE COMMERCIALIZATION PROMOTION ACT OF 1996

HOUSE COMMITTEE ON SCIENCE
SUBCOMMITTEE ON SPACE
July 31, 1996

(1) Question: Are there skills that particular NASA employees have that are critical to the continued efficient and safe operation of the Space Shuttle?

Answer: The skills of NASA employees that are critical to the ability of United Space Alliance (USA), Lockheed Martin's joint venture with Rockwell, to perform the Space Flight Operations Contract (SFOC) include:

- Program and project management
- Specific technical skills in areas where USA has limited knowledge, e.g., Marshall Space Flight Center projects
- Safety and mission assurance

(2) Question: What impact will prohibitions on imaging certain countries or areas have on the industry's ability to raise capital?

Answer: The issue of whether restrictions on imaging certain countries or regions affects US companies depends upon how the restrictions are imposed.

The groundwork for developing a strong U.S. commercial imaging industry was the product of broad bipartisan cooperation through successive administrations and Congresses. Recognizing the importance of imagery products to scientists, researchers, map makers, land developers, city planners, oil and mining companies, emergency rescue teams, and many others, a series of statutory and policy changes were adopted that paved the way for issuance of the first commercial remote sensing license authorizing a company to provide 3-meter imagery for civil and commercial use.

The U.S., however, was not alone in pursuing commercial market opportunities for its space-based imaging capability. Russia, France, Israel, China, and India all represent actual or probable sources for such imagery in the near term. Thus, the issue for U.S. industry and policy-makers was -- and continues to be -- whether U.S. companies would be able to use their technological prowess and commercial business know-how to establish themselves as the leading suppliers in the world market. A strong U.S. market presence would serve to protect not only national technological and economic interests, but the national security as well.

The Clinton Administration agreed with this analysis and -- with the strong leadership of this Committee -- moved to formulate an interagency policy that was memorialized in March 1994 as Presidential Decision Directive 23 (PDD-23).

In Lockheed Martin's view, Presidential Decision Directive (PDD-23) strikes the appropriate balance between industry's need for clear, predictable regulation and the government's need for an effective mechanism to address major national security or foreign policy contingencies. This balance is reflected throughout PDD-23, but particularly with respect to the procedure whereby the Secretary of Commerce may require licensees to limit collection or distribution of data during periods when critical U.S. national security or foreign policy interests are at stake, as determined by Cabinet-level decision makers. Moreover, any such limits are to be carefully defined. That is, they will entail only those constraints required to address a discrete situation so that unnecessary burdens on commercial business operations or on the data needs of customers will be avoided. Restrictions on imaging imposed in accordance with PDD-23 may be problematic for commercial operators, but ultimately they should not have a serious adverse impact on the prospects for financial investment in their systems.

However, the ability of our Space Imaging venture to raise capital and attract a strong customer base, especially from foreign sources, is seriously undermined if the U.S. government deviates -- or gives the appearance of deviating -- from existing law and policy, PDD-23 in particular. Specifically, attempts by our government to impose indeterminate limitations on the imaging of one country or region, in the absence of the kind of national security contingency that PDD-23 was intended to address, raises the specter among potential investors and customers of similar restrictions on imaging other regions. Indeed, if that approach, i.e., on a region-to-region *a priori* basis, had been adopted in PDD-23, Lockheed Martin, and others in U.S. industry, could and would not have made the substantial corporate financial commitment required to implement a global commercial remote sensing system. It is not surprising when potential investors in our Space Imaging venture reach the same conclusion -- and they do. When the government changes the ground rules that we have accepted and relied upon, or implements them in an unpredictable and inconsistent manner, the inevitable result is to drive prospective partners and customers to our foreign competitors who are free to operate worldwide without similar constraints.

October 7, 1996

Responses to Questions for the Record by Scott Pace

Please explain why it is important for the U.S. to enter into the international negotiations on issues associated with the Global Positioning System (GPS)?

The United States can advance its own economic and security interests by engaging in international discussions that may lead to more formal agreements on the use of GPS. The Administration announcement of a national GPS policy on March 29 helped create a more stable environment for public and private decisions on using GPS in the future. However, the global nature of GPS means that decisions on its use will necessarily occur in an international environment. The United States has an opportunity to help shape that environment through negotiations on GPS-related issues affecting public safety (e.g., international aviation and maritime navigation), regional security, and commerce. In particular, it would seem to be in the interest of the United States, its allies, and friends, to see GPS adopted as a global standard for navigation, position location, and precision timing.

The President has framed a policy environment for helping commercial applications of the Global Positioning System continue expanding, but the Administration still has a lot of work to do in fulfilling the goals laid out in the President's policy. Could you summarize those steps for us? Why is it important to maintain the GPS signal continuously without direct user fees?

I cannot and do not speak for the Administration on what it sees as necessary steps to meeting the President's goals. However, from observing steps taken since the release of the GPS policy, there seem to be at least several major thrusts underway. The first is to maintain the GPS constellation itself through the launch of replacement satellites and procurement of next-generation of GPS satellites (i.e., Block IIF). The second is to create a focused program to prevent the misuse or denial of GPS signals to U.S. and authorized allied military users. This appears to be underway in the DOD effort known as NAVWAR. The third is to initiate discussions with key allies and friends on the future international use of GPS. The first discussions have occurred with Japan and discussions with Europe and Russia will likely occur in the future. Finally, the U.S. Government is proceeding with plans to apply GPS to civil needs such as air and maritime navigation and seeking to protect the existing spectrum allocation for GPS within the International Telecommunications Union.

It is important to maintain the civil GPS signal continuously without direct user fees for technical, safety, commercial, and national security reasons. Technically, an attempt collect fees would seem to require encryption of the signal to enforce payment (e.g., as with cable television or other information services. This would require expensive changes to the very large installed base of GPS equipment in place worldwide. Simply put, the option for economically imposing fees has long passed. From a safety standpoint, direct user fees would likely result in some persons foregoing use of GPS navigation aids, thus creating risks for others. The imposition of a direct fee would slow the rate of commercial acceptance of GPS thus harming U.S. companies and slowing the realization of the global productivity gains from using this technology. Finally, the imposition of user fees would create an economic niche for the entry of commercial or governmental competitors who might offer alternatives to GPS (not necessarily from space) that could be used by hostile forces.

The language in the draft Space Commercialization bill supports the President's policy and gives the Administration a lot of flexibility to implement it. Would it help advance the interagency process if Congress attempted to set target dates and firmer guidelines for Executive Branch departments and agencies to implement the President's policies?

In my personal opinion, it seems unnecessary to spell out specific target dates and guidelines for the conduct of international discussions. International discussions necessarily require a degree of flexibility in considering the impact of technologies such as GPS. The State Department appears to be pursuing an orderly and integrated approach to discussions of GPS, involving multiple agencies, and consulting with U.S. industry. I would expect that the Congress would play a greater role in the event a specific agreement or agreements were to emerge. In the meantime, bipartisan support for pursuing discussions that support U.S. economic and security interests will likely be of greatest value to their effectiveness.

The President's policy calls for the discontinuation of Selective Availability as soon as 2000, but no later than 2006. This means that our military adversaries will have access to a navigation advantage that our military currently enjoys. How do we counter this potential without denying the more precise signal to our military forces? Does the Defense Department have adequate programs in place to preserves this advantage for the U.S. military while denying it to our adversaries?

The effectiveness of the advantage created by Selective Availability has been eroding with the spread of both local-area and wide-area differential GPS systems. The maintenance of a military advantage via GPS for U.S. and authorized allied forces requires new techniques to prevent denial or misuse of GPS signals. The first challenge would seem to be in ensuring that authorized military receivers can access GPS signals even in a jamming environment. A second challenge is in being able to selectively deny an adversary access to GPS signals while not hindering friendly operations. For example, it may be necessary to selectively jam the reception of GPS signals in a war zone while allowing GPS to be used for civilian purposes in nearby regions. Finally, it is important that the GPS signal also be protected from unintentional interference by other users operating near the L-band frequencies used.

The DOD does have a NAVWAR program in place to preserve the military advantage created by GPS, but I am not qualified to say how effective it is. The Committee may wish to seek information from to the Department of Defense or other bodies such as the Defense Science Board.

Are changes needed in the scope of indemnification and risk associated with the new government/industry ventures such as X-33 and the privatization of the Space Shuttle?

The X-33 is not being developed under a standard government contract, but under a cooperative agreement (CAN) with NASA. Liability management is defined for government contracts but not for CANs. Considerable liability exposure is likely to occur in the X-33 program (e.g., during overland test flights) and that exposure must be allocated between the government and industry partners. New legislation would seem to be needed by NASA to accept the results of liability negotiations with the private sector.

In the case of United Space Alliance, government contract law with respect to liability would appear to apply. If some form of Shuttle privatization were to occur, new legislation would be needed to allow NASA to explore how it might manage the associated risks. As an analogy with the 1988 Amendments to the Commercial Space Launch, a cap on total private sector liability exposure may be necessary for launch service agreements involving the Shuttle.

You mention in your testimony that it would be helpful for the Department of Commerce to publish a complete list of required information to submit an application for a remote sensing license. What happens now, without such a list? Does Section 201 of H.R. 3936, which amends the Land Remote Sensing Policy Act of 1992 improve this process?

Without final regulations in place, there are informal pre-application meetings between Commerce and industry to explore the license process and the kinds of information needed. My understanding is that the technical aspects of license applications tend to proceed smoothly, but if novel issues occur (as is often the case where international investments are sought) then an interagency discussions occurs. Without definite schedules, government discussions tend to take a lot of time and insert unplanned delays into business plans.

Section 201 would improve the process in several ways. It would create enforceable time frames for decision and clarify that applications have a "presumption of approval" unless there are specific problems. I am uncertain that language requiring the Secretary of State to make internal Administration recommendations available to the Congress would be useful. Rather, it might be better to designate a single, senior policy-level point of contact at the Commerce Department to establish a clear focal point of responsibility for licenses.

In your written testimony, you state that the Land Remote Sensing Policy Act of 1992 and President Clinton's 1994 directive on remote sensing intend that there be a "stable, predictable license process, not a new interagency debate with every international business arrangement." What types of delays are firms experiencing in the licensing process and what is going on internally with the interagency review process?

Delays on the order of months have occurred as a result of interagency reviews of commercial financial arrangements. As noted above, timelines have generally been met in the case of technical issues. A key problem seems to be in defining who controls satellite operations for the purpose of meeting U.S. national security and foreign policy requirements. Applicants have had to spend time educating government agencies on financial issues, such as the role of different classes of equity and debt in high technology commercial ventures.

Do you support Section 202, Acquisition of Earth Remote Sensing Data?

Yes. The study described in this section could make an important contribution to NASA's ability to implement it's draft commercial strategy for Mission to Planet Earth.

Thank you again for inviting me participate in these hearings. Please feel free to contact me if I might provide additional information or otherwise be of assistance.

Sincerely,

Scott Pace

Scott Pace

REED SMITH SHAW & MCCLAY

1301 K STREET, N.W.

SUITE 1100 - EAST TOWER

WASHINGTON, D.C. 20005-3317

202-414-9200

FAX 202-414-9299

HARRISBURG, PA
McLEAN, VA
NEW YORK, NY
PHILADELPHIA, PA
PITTSBURGH, PA
PRINCETON, NJ

WRITER'S DIRECT NUMBERS:
PHONE 202-414-9277
FAX 202-414-9299
INTERNET kaurby@rssm.com

September 12, 1996

F. James Sensenbrenner, Jr., Chairman
U.S. House of Representatives
Committee on Science
Subcommittee on Space and Aeronautics
Rayburn House Office Building
Suite 2320
Washington, D.C. 20515

Chairman Sensenbrenner:

In response to your inquiry dated August 14, 1996 and on behalf of Mark Brender, Chairman of the Radio-Television News Directors Association ("RTNDA") Remote Sensing Task Force, RTNDA respectfully submits the following answers to the questions posed for the record concerning the "Space Commercialization Promotion Act of 1996," H.R. 3936.

1) **Q: Which provisions of the Land Remote Sensing Policy Act of 1992 and Presidential Decision Directive #23 ("Presidential Directive") are inconsistent with the Constitution?**

A: Under current U.S. policy, the Secretary of Commerce, in consultation with the Secretaries of State and Defense, reserves the right to limit data collection and/or distribution of remote-sensing satellite imagery during periods "when national security or international obligations and/or foreign policies may be compromised. Disputes between the secretaries concerning whether or not to exercise "shutter control" over a satellite would be exercised by the President. This policy is embedded in Section 5623 of the Landsat Act of 1992, which gives the Secretary of Commerce virtually unbridled discretion to deny license applications, condition licenses, or take other actions against licensees in order to "preserve" the national security and "observe" the international obligations of the United

States. The policy is more specifically set forth in the Presidential Directive:

> [d]uring periods when national security or international obligations and/or foreign policies may be compromised as defined by the Secretary of Defense or the Secretary of State, respectively, the Secretary of Commerce may, after consultation with the appropriate agency(ies), require the licensee to limit data collection and/or distribution by the system to the extent necessitated by the given situation. Decisions to impose such limits only will be made by the Secretary of Commerce in consultation with the Secretary of Defense or the Secretary of State, as appropriate. Disagreements between Cabinet Secretaries may be applied to the President. The Secretaries of State, Defense, and Commerce shall develop their own internal mechanisms to enable them to carry out their statutory responsibilities.[1]

RTNDA submits that these provisions are inconsistent with the substantive and procedural standards of the First Amendment. Once a license is issued and a remote-sensing satellite is operational, the most critical issue for the licensee is when the government might restrict imaging of a particular area and for how long because of national security or foreign policy considerations. The "may be compromised" standard establishes too low a threshold of proof

---

1 Fact Sheet, U.S. Policy on Foreign Access to Remote Sensing Space Capabilities, Mar. 10, 1994 at 1.

for finding a danger to national security or international obligations that would justify "shutter control." The First Amendment requires a determination of "clear and present danger" or "serious and imminent threat" to trigger a governmental prior restraint of information. Further, Constitutional law places exclusively in the hands of the judiciary the power to decide whether and how to implement prior restraints concerning a dispute between the government and a private party whose anticipated expression would allegedly create a danger to society. Thus, under Constitutional law, any decision to exercise "shutter control" should not rest solely with the Cabinet and the President; the government should be required to obtain an order of injunction from a federal court.

2) **Q: Does H.R. 3936 improve the environment for private investment in the private remote sensing industry over existing remote sensing policy?**

A: As stated above, the most critical issue for licensees is when the government might restrict imaging of a particular area and for how long. While H.R. 3936 attempts to improve the environment for private investment in the private remote sensing industry over existing remote sensing policy by voicing a commitment to the commercialization of space and offering more specific licensing standards, it does nothing to remove the specter that the government has the ability to exercise shutter control in a manner inconsistent with the First Amendment. H.R. 3936 does not remove the Cabinet's ability to shut down commercial remote-sensing satellites where they find that their operation is "inconsistent" with national security interests or international obligations. As such, it does nothing to alleviate the "chill" the current policy has placed on the willingness of mass media organizations and others to invest substantial sums in developing such systems and applying for a license to operate them. As RTNDA has repeatedly emphasized, current policy does not clearly define how and when the government might

BOSTON PUBLIC LIBRARY
3 9999 05984 259 9

impose restrictions on licensees; restrictions imposed virtually "at will" by the government could well undermine the economic viability of a remote-sensing system. A clearly defined standard, which is consistent with Constitutional principles, will offer private investors the certainty they need to develop the private remote-sensing industry.

3) **Q: What standards governing free expression should be used in order to formulate policy that benefits the U.S. as well as the private remote-sensing industry?**

A: As described above, the rules governing commercial remote-sensing must comport with traditional First Amendment principles. RTNDA proposes that H.R. 3936 incorporate the following language:

> The Administrator shall not deny an application for a license or for an amendment thereto, or insert terms, conditions or other provisions in a license, or take any other action against a licensee unless there is clear evidence that such action is necessary to prevent serious and immediate injury to distinct and compelling national security interests of the United States, or to prevent violations of valid international treaty obligations of the United States. Any determination based on one or more of these grounds which is adverse to the interests of an applicant or licensee shall be made in a written statement containing a full explanation of the reasons therefore, with specific findings of fact and conclusions of law on all material issues. Those findings and conclusions must show that there are no less restrictive means by which the United States government could accomplish the intended purpose.

> In situations where the Administrator desires to prevent unenhanced or enhanced data from being acquired, used or disseminated in violation of the Act, these regulations or the requirements of any license, the Administrator shall first seek an order of injunction or similar judicial determination from a United States District Court which possesses both personal and subject matter jurisdiction and afford the licensee and/or affected parties adequate notice and opportunity for hearing.

These amendments ensure that a final prior restraint will not be imposed, without first obtaining, as the Supreme Court has required, a judicial determination that such action is consistent with the First Amendment. This suggested language no more than reflects the standards which courts have developed for the express purpose of determining when restrictions may be imposed on the press in order to promote other national interests.

Should you require further information, kindly contact the undersigned, counsel for RTNDA.

Sincerely,

Kathleen A. Kirby

KAK:lmh
cc: Mr. David Bartlett
Mr. Mark Brender

ISBN 0-16-053636-7